The OIL and GAS JOURNAL

PRODUCING REFINING ENGINEERING MARKETING

VOL. 29. NO. 15. TULSA, OKLAHOMA, AUGUST 28, 1930

Copyright, 1930, by The Petroleum Publishing Co

Table of Contents

SPECIAL FEATURES

Refinery Situation Needs Adjustment 35
By Andrew M. Rowley
Weakness in gasoline being reflected on crude oil despite success which has attended all proration efforts.

Texas Commission Revises Proration Plan 37
Sharp differences of opinion expressed in district hearings. Conservation policy upheld.

California Output May Show Increase 37
By L. P. Stockman
Playa Del Rey difficult to halt owing to town lot drilling. Important completion at Kettleman.

Review of Air-Gas Lift in Seminole 38
By L. G. E. Bignell
This production method shows high initial investment without definite evidence of gain in ultimate recovery.

View of Hobbs Pool, New Mexico 38-39

Repressuring Test at Saratoga Dome 39
By Neil Williams
Rio Bravo Co. experimenting with rejuvenation of old sand and application to shallow production.

Oil Show Grounds Get Finishing Touch 40-41
By Thomas F. Smiley
Additions and improvements add greatly to convenience of visitor and exhibitor.

New Jersey Company Curtails Imports 40
Shipments of crude and products from abroad 17.27 per cent less in first six months.

Red Warning Marks Turning Point 42
Oil industry again rounding corner should beware of ditch says New Jersey organ.

A Week of Crisis (Editorial) 44

Study Effect of Varying Acid Treats 46
By R. S. Jackson, A. C. Hutson, M. K. Thornton, Jr., and A. D. Boswell
Results shown on paraffin base lubricants differ from naphthenic base.

A.P.I. Refinery Statistics 46

550,000 Barrels Oklahoma Limit in September 48

Pipe Line Construction News 72

Field Problems and Their Solution 90
Edited by Thomas F. Smiley

Texas Gross Production, Second Quarter 100

Factors Governing Regulator Choice 118
By Louis H. Brendel
Direct-operated pressure instrument and pilot actuated regulation.

Photographs of Men in West Texas Fields 145

Cracking Answer to Europe's Refining Problem 154
By Paul Truesdell

Oklahoma Gross Production, Second Quarter 161

FIELD OPERATIONS

Late Fields 48

Oklahoma 51
By W. A. Spinney

Kansas 52
By W. A. Spinney

North Louisiana-Arkansas 54
By D. H. Bancroft

Southwest Texas 55
By B. D. Stevenson

Gulf Coast 58
By Neil Williams

Rocky Mountain Area 61
By Tolbert R. Ingram

California 62
By L. P. Stockman

Canada 64
By Victor Lauriston

West Texas 69-174
By L. E. Bredberg

North Texas and Panhandle 70-174
By L. E. Bredberg

Eastern Fields 78
By Special Correspondent

Kentucky-Tennessee 78
By George A. Whitney

Central West 81
By George A. Whitney

Tennessee 81
By George A. Whitney

Michigan 148
By Paul A. Elliott

East Central Texas 150
By L. E. Bredberg

REFINING AND MARKETING

Heavy Refined Market Continues 36
By C. O. Willson
Large seasonal movement of gasolines with prices weak in Oklahoma. Expect tank wagon adjustments.

Technical Questions Answered 86
By Dr. C. K. Francis

Distress Gasoline Factor in Chicago 134
By J. B. Waldo

Eastern Oil Market Unsettled 135
By A. E. Mockler

Natural Gasoline Manufacture 137

Brief Items for Petroleum Refiners 138

Refinery and Crude Prices 140-141

Tank Wagon Quotations 142

Of Interest to Sales Departments 154

ARTICLES OF GENERAL INTEREST

The Advertisers' Index 33

Natural Gas Industry Developments 82

Personal Paragraphs About Oil Men 84

Oil Equipment and Supplies 94-97

Classified Want Advertisements 132-133

Crude Petroleum Statistics 184

BRANCH OFFICE CORRESPONDENTS

D. H. Bancroft, 538 Ricou Brewster Building, Shreveport, La.
L. E. Bredberg, 610 Petroleum Building, Fort Worth, Texas.
Paul A. Elliott, Chronicle Office, Muskegon, Mich.
Tolbert R. Ingram, 130 State Office Building, Denver, Colo.
Charles E. Kern, 602 Albee Building, Washington, D. C.
Victor Lauriston, Box 136, Chatham, Ontario, Canada.
B. E. V. Luty, Bessemer Building, Pittsburgh, Pa.
A. E. Mockler, Rooms 1919-21, No. 154 Nassau Street, New York, N. Y.
B. D. Stevenson, 1504 Milam Building, San Antonio, Texas.
L. P. Stockman, 522 Union Oil Building, Los Angeles, Calif.
F. B. Taylor, Box 994, Casper, Wyo.
John B. Waldo, Room 1416, No. 6 North Michigan Blvd., Chicago, Ill.
Leon H. Walter, Oil City Derrick, Oil City, Pa.
George A. Whitney, Box 98, Main Postoffice, Toledo, Ohio.
Neil Williams, 1316 Second National Bank Building, Houston, Texas.

Refinery Section Starts on Page 134

The OIL and GAS JOURNAL

PRODUCING REFINING ENGINEERING MARKETING

VOL. 29. NO. 15. TULSA, OKLAHOMA, AUGUST 28, 1930

Copyright, 1930, by The Petroleum Publishing Co

Table of Contents

SPECIAL FEATURES

Refinery Situation Needs Adjustment 35
By Andrew M. Rowley
Weakness in gasoline being reflected on crude oil despite success which has attended all proration efforts.

Texas Commission Revises Proration Plan 37
Sharp differences of opinion expressed in district hearings. Conservation policy upheld.

California Output May Show Increase 37
By L. P. Stockman
Playa Del Rey difficult to halt owing to town lot drilling. Important completion at Kettleman.

Review of Air-Gas Lift in Seminole 38
By L. G. E. Bignell
This production method shows high initial investment without definite evidence of gain in ultimate recovery.

View of Hobbs Pool, New Mexico 38-39

Repressuring Test at Saratoga Dome 39
By Neil Williams
Rio Bravo Co. experimenting with rejuvenation of old sand and application to shallow production.

Oil Show Grounds Get Finishing Touch 40-41
By Thomas F. Smiley
Additions and improvements add greatly to convenience of visitor and exhibitor.

New Jersey Company Curtails Imports 40
Shipments of crude and products from abroad 17.27 per cent less in first six months.

Red Warning Marks Turning Point 42
Oil industry again rounding corner should beware of ditch says New Jersey organ.

A Week of Crisis (Editorial) 44

Study Effect of Varying Acid Treats 46
By R. S. Jackson, A. C. Hutson, M. K. Thornton, Jr., and A. D. Boswell
Results shown on paraffin base lubricants differ from naphthenic base.

A.P.I. Refinery Statistics 46

550,000 Barrels Oklahoma Limit in September 48

Pipe Line Construction News 72

Field Problems and Their Solution 90
Edited by Thomas F. Smiley

Texas Gross Production, Second Quarter 100

Factors Governing Regulator Choice 118
By Louis H. Brendel
Direct-operated pressure instrument and pilot actuated regulation.

Photographs of Men in West Texas Fields 145

Cracking Answer to Europe's Refining Problem 154
By Paul Truesdell

Oklahoma Gross Production, Second Quarter 161

FIELD OPERATIONS

Late Fields 48

Oklahoma 51
By W. A. Spinney

Kansas 52
By W. A. Spinney

North Louisiana-Arkansas 54
By D. H. Bancroft

Southwest Texas 55
By B. D. Stevenson

Gulf Coast 58
By Neil Williams

Rocky Mountain Area 61
By Tolbert R. Ingram

California 62
By L. P. Stockman

Canada 64
By Victor Lauriston

West Texas 69-174
By L. E. Bredberg

North Texas and Panhandle 70-174
By L. E. Bredberg

Eastern Fields 78
By Special Correspondent

Kentucky-Tennessee 78
By George A. Whitney

Central West 81
By George A. Whitney

Tennessee 81
By George A. Whitney

Michigan 148
By Paul A. Elliott

East Central Texas 150
By L. E. Bredberg

REFINING AND MARKETING

Heavy Refined Market Continues 36
By C. O. Willson
Large seasonal movement of gasolines with prices weak in Oklahoma. Expect tank wagon adjustments.

Technical Questions Answered 86
By Dr. C. K. Francis

Distress Gasoline Factor in Chicago 134
By J. B. Waldo

Eastern Oil Market Unsettled 135
By A. E. Mockler

Natural Gasoline Manufacture 137

Brief Items for Petroleum Refiners 138

Refinery and Crude Prices 140-141

Tank Wagon Quotations 142

Of Interest to Sales Departments 154

ARTICLES OF GENERAL INTEREST

The Advertisers' Index 33

Natural Gas Industry Developments 82

Personal Paragraphs About Oil Men 84

Oil Equipment and Supplies 94-97

Classified Want Advertisements 132-133

Crude Petroleum Statistics 184

BRANCH OFFICE CORRESPONDENTS

D. H. Bancroft, 538 Ricou Brewster Building, Shreveport, La.
L. E. Bredberg, 610 Petroleum Building, Fort Worth, Texas.
Paul A. Elliott, Chronicle Office, Muskegon, Mich.
Tolbert R. Ingram, 130 State Office Building, Denver, Colo.
Charles E. Kern, 602 Albee Building, Washington, D. C.
Victor Lauriston, Box 136, Chatham, Ontario, Canada.
B. E. V. Luty, Bessemer Building, Pittsburgh, Pa.
A. E. Mockler, Rooms 1919-21, No. 154 Nassau Street, New York, N. Y.
B. D. Stevenson, 1504 Milam Building, San Antonio, Texas.
L. P. Stockman, 522 Union Oil Building, Los Angeles, Calif.
F. B. Taylor, Box 994, Casper, Wyo.
John B. Waldo, Room 1416, No. 6 North Michigan Blvd., Chicago, Ill.
Leon H. Walter, Oil City Derrick, Oil City, Pa.
George A. Whitney, Box 98, Main Postoffice, Toledo, Ohio.
Neil Williams, 1316 Second National Bank Building, Houston, Texas.

Refinery Section Starts on Page 134

Refinery Situation Needs Adjustment

Highest daily average estimated total production in 1929, week ended Aug. 24, 2,975,435 bbls. Lowest in 1929, Dec. 27, 2,595,320 bbls.

Weakness in Gasoline Being Reflected on Crude Oil Despite Success Which Has Attended All Proration Efforts

Highest daily average estimated light oil production in 1929, week ended Sept. 14, 2,534,524 bbls. Lowest in 1929, Apr. 13, 2,142,036 bbls.

By Andrew M. Rowley

Just a year ago last week crude oil production in the United States attained its highest peak, reaching a daily average of 2,975,435 barrels. Despite the fact the output for the past week averaged a half a million barrels daily less and that consumption has shown an increase, rumors of crude oil price reductions agitated the industry early this week.

It is generally agreed the situation as it affects the producing branch of the industry is in good shape but the refinery situation is admittedly unsatisfactory. Extremely low prices for gasoline have prevailed during this year. Refiners have been urged week after week since last winter to curtail runs to stills, reduce the quantity of gasoline being manufactured and permit a withdrawal of gasoline from storage in such an amount as would bring stocks down to a more commensurate level.

Yet, with consumption showing as large an increase as could be expected, distress gasoline has made its appearance in different parts of the country with the usual result—price wars and a general lowering of prices. Motorists have been able to buy gasoline in different sections at the rate of "eight gallons for a dollar."

Crude oil production has been averaging 500,000 barrels daily less than it did last year. Producers throughout the country deserve the greatest credit for efforts they have made in the interest of the conservation movement and for the successes achieved in holding crude oil production more nearly to market requirements. It is difficult to understand why any refiner should sacrifice profits for gallonage. It has been pointed out time after time that greater gallonage at distress prices is far less profitable than normal sales at prices which should and would prevail.

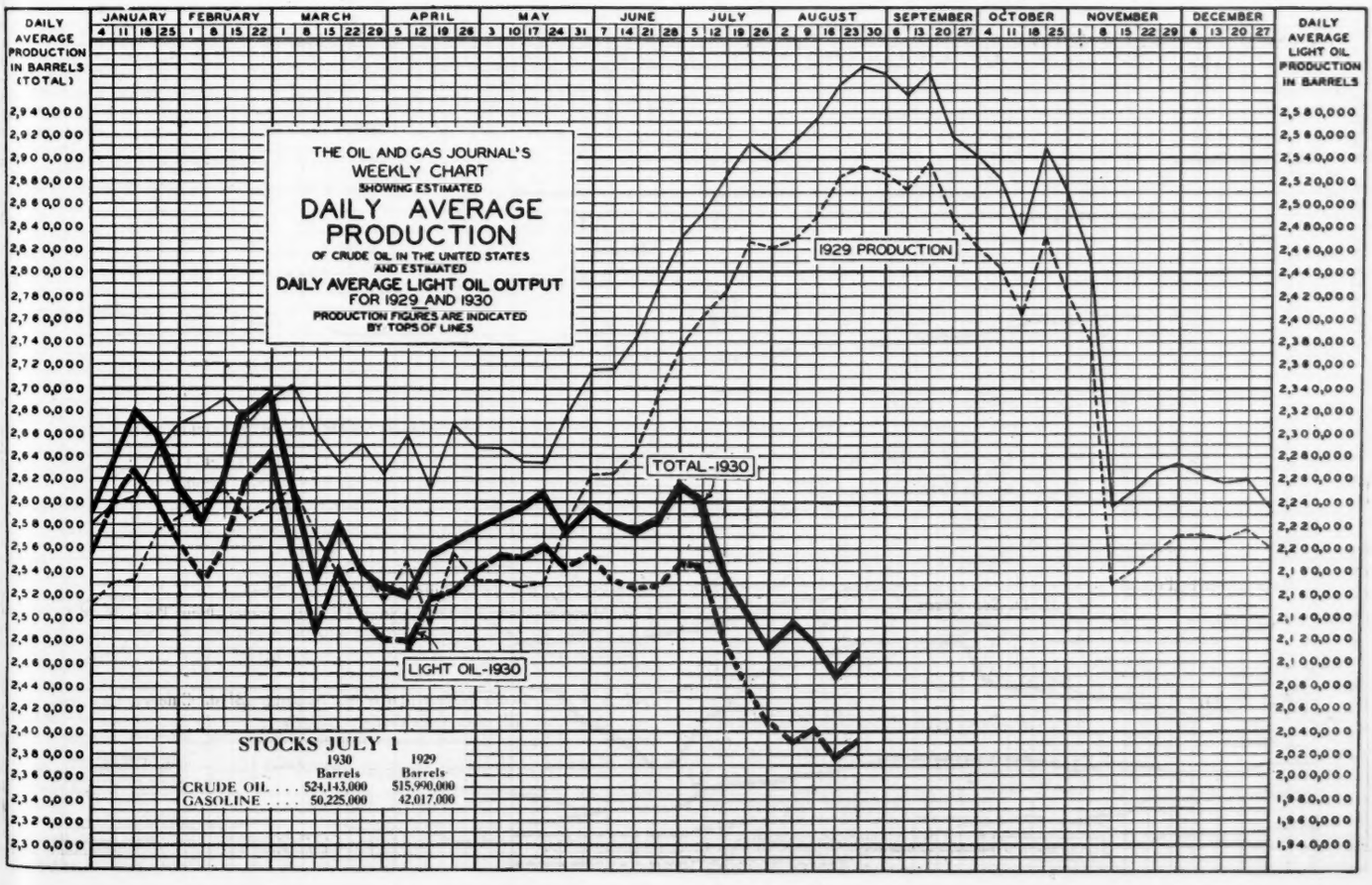
Statewide proration of crude oil production becomes effective this week in Texas. Adjustments probably will be made in one or two areas there but it is believed a reduction in output will be obtained through efforts of operators and co-operation of the State Railroad Commission. With such conditions obtaining in the producing branch of the industry operators cannot be blamed very much for feeling the crude oil price structure should be maintained.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity oil in the United States for week ended August 23 and a comparison with the previous week follows:

	August 23		August 16	
	Light	Heavy	Light	Heavy
Oklahoma—				
Oklahoma City	108,210	.....	70,615	.....
St. Louis-Pearson	26 270	.....	26,920	.....
Seminole	141,395	.....	147,385	.....
Northern miscellaneous	229,645	.....	231,920	.....
Southern fields	60,815	.....	60,915	.....
Total Oklahoma	566,335	.....	537,755	.....
West Texas—				
Hendricks	73,273	.....	78,005	.....
Yates	106,519	.....	107,125	.....
Remainder	104,386	.....	107,014	.....
Total West Texas	284,178	.....	292,144	.....
North Louisiana	36,220	5,270	35,755	5,310
Arkansas	17,715	37,340	18,145	37,300
North Central Texas	125,203	.....	125,630	.....
Texas Panhandle	99,001	.....	99,710	.....
East Central Texas	40,215	.....	40,805	.....
Kansas	114,380	.....	114,320	.....
Total Mid-Continent area	1,283,247	42,610	1,264,264	42,610
Gulf Coast	.....	201,461	.....	200,885
Southwest Texas	.....	107,926	.....	105,002
Eastern	120,000	.....	121,000	.....
Rocky Mountain area	115,403	.....	103,244	.....
California—				
Santa Fe Springs	108,000	.....	108,000	.....
Long Beach	103,000	.....	105,000	.....
Playa Del Rey	12,500	.....	17,000	.....
Elwood	39,750	.....	46,000	.....
Ventura Avenue	47,000	.....	48,000	.....
Seal Beach	20,500	.....	20,500	.....
Remainder of State	188,000	86,000	187,000	84,500
Total California	518,750	86,000	531,500	84,500
Total United States	2,037,400	437,997	2,020,008	432,997
Grand total	2,475,397		2 453,005	

→ **Total Increase 22,392 Bbls.; Light Oil Increase 17,392 Bbls.** ←



Weak Refinery Market Continues

Heavy Seasonal Movement of Gasolines With Prices Soft in Oklahoma. Expect Tank Wagon Adjustments

By C. O. Willson

Heaviness in practically all refined products continues to characterize the Oklahoma (Group 3) and the Mid-Continent refined markets.

Available information from representative refiners indicates that the domestic movement of gasoline including natural gasolines was probably greater last week than any previous seven-day period, this year. Actual consumption is at the high point of the summer season and with jobber storage low, orders, especially on contracts, reflect this retail demand. There is still no general disposition to take advantage of this situation with more favorable prices. Many refining organizations both large and small are continuing their policy of moving their current output and reducing their storage with little regard to prices.

No improvement is noted in other products. Natural gasolines occupy a strong position although the spot demand has declined over the past few days. Most of the manufacturers are sold up for August delivery and some are oversold and will carry over part of their August business into September. August has been the best month of the year for the manufacturers with substantial withdrawals from storage as well as the movement of current output. Movements in trainloads have been the rule among the larger manufacturers and marketers and in the rush to supply the immediate requirements of the major refiners and exporters there has been considerable swapping of shipments among the sellers.

Although the September business on natural gasoline is still a matter of conjecture, the heavy movement in August is believed to have strengthened the position of the manufacturers even though the demand next month is less. Usually the September demand for natural gasoline is heavy and with refiners continuing a policy of reducing their storage of motor fuels, it is anticipated that September this year will follow the rule.

Uncertainty Exists

The feeling of uncertainty that has prevailed in refinery markets for several weeks is gradually crystallizing in the belief that posted tank wagon and service station prices in most consuming territories and posted export prices will shortly be reduced. Many of the trade feel that these reductions will be preceded or followed by reductions in crude oil prices despite the drastic curtailments in effect in the flush producing areas.

Reports show that the situation in retail markets throughout the entire country is becoming more and more unsatisfactory to the major distributors including the large jobbers. Price cutters fortified with wide spreads between the delivered tank car prices and the normal tank wagon service station prices are getting a substantial share of the business in the larger cities and towns. Many are offering lubricating oils as well as gasoline at reduced prices.

A motor trip just completed by an Oklahoma party to points as far east as Ohio reflected this condition. The ordinary grade of gasoline on this trip was available as low as 12.5 cents including tax and as high as 21 cents, the latter being the normal retail price in Ohio. The combination bulk and retail stations adjoining railroad tracks selling at "wholesale prices" from 2 to 5 cents under the general market were doing business in practically all the large consuming centers. In some cases these sellers have forced general reductions as in the case of Terra Haute, where all stations were offering the regular grade of gasoline at 15.8 cents including the Indiana state tax of 4 cents.

Independent Export Buying

In the export end also, it is believed that conditions point to lower posted prices. Buyers not affiliated with the Export Petroleum Association, Inc., have been placing the bulk of the spot business with Mid-Continent refiners. One Oklahoma refiner, during August, is reported to have accepted orders on 400 and 390 endpoint gasoline, the shipments to total approximately 5,000,000 gallons. This business was placed by an independent exporter at prices under those posted by the Export Petroleum Association, Inc., whose membership includes practically all the large export buyers. The same independent sources have also placed large orders with Arkansas and North Louisiana refiners.

Trade authorities agree present conditions cannot continue indefinitely. Many have hoped that an advance in refinery gasoline prices rather than a reduction

(Continued on Page 152)

REFINED MARKET BAROMETER

Gasoline shipments from refineries with the domestic demand at the highest point of the year continue heavy in all parts of the country. Prices generally are unchanged although local reductions were made effective in sections where competition continues keen with considerable dumping of excess supplies. Natural gasoline prices are firm and continue to occupy a stronger position than the regular grades of refinery gasolines. Some improvement was noted in the domestic demand for kerosene in several areas but price ranges are unchanged. The seasonal contract movement of furnace oil material and special grades of fuel oil is under way and the spot market is also more active. The lub market is generally quiet. The eastern market on wax was again dull following a more active period early in the month.

Mid-Continent—Refinery gasoline prices soft despite heavy contract movement. Natural gasolines firm. Better kerosene movement. Fuels unchanged. Little spot demand for lubricants.

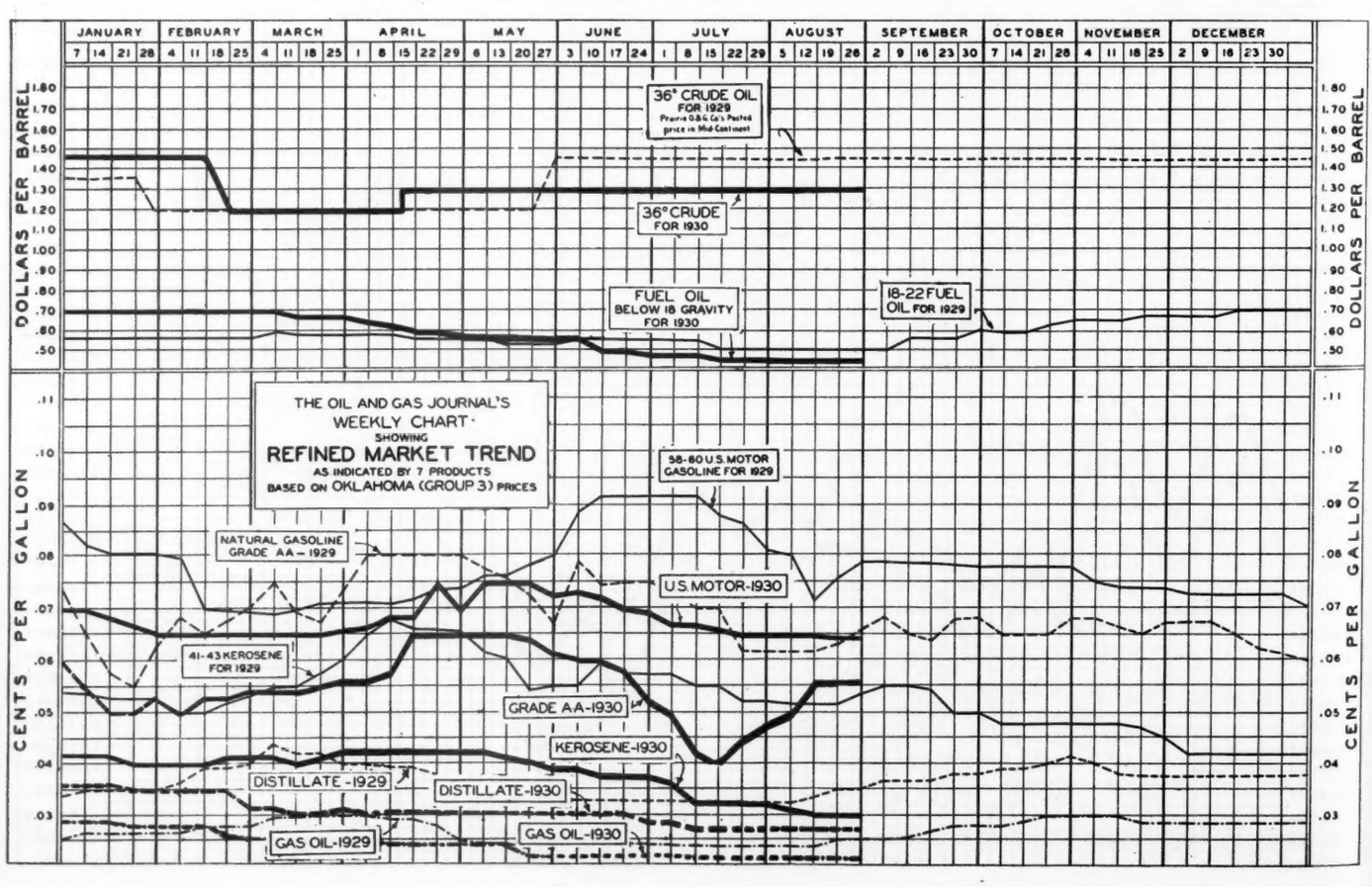
East Coast—Market generally unsettled. Considerable price cutting in refinery gasoline sales. Kerosene more active. Steam refined stocks and bright stocks slow. Less demand for wax.

Gulf Coast—Gasoline prices firm. Fair movement of fuels. Improved seasonal demand for pale and red oils.

Chicago—Heavy contract movement of gasoline but spot demand slow. Kerosene inactive. Light movement of furnace oils. Other products unchanged.

Pennsylvania—Higher crude oil prices expected to improve price situation on some refined products. Demand continues slow.

California—Gasoline unsettled with wide variations in prices. Other products unchanged.



Texas Commission Revises Proration

Sharp Differences of Opinion Expressed in District Hearings Over Curtailment Order. Conservation Policy Upheld

AUSTIN, Tex., Aug. 26.—The Texas Railroad Commission closed its general oil proration hearing today and called a special hearing for tomorrow on the Panhandle section, with the Panhandle committee and Chairman J. H. Clark.

The commission revised its West Texas limit from 276,350 bbls. to 274,000 bbls. It increased the limit for Southwest Texas fields from 67,150 bbls. to 97,150 bbls. to take care of the increase to be allowed in Darst Creek Field to 44,000 bbls., and to raise the Williamson County Field from 7,000 bbls. to 9,000 bbls. daily.

The production limit of 150,500 bbls. on Gulf Coast fields was left unchanged, but the commission agreed to leave the order unapplied for 30 days, during which it will be determined whether the area will be brought within this limit. During the period it was agreed no new well shall produce over 500 bbls. daily.

The Panhandle hearing is to deal with special conditions in which it is claimed some wells cannot be choked down without prospect of destroying them.

Criticisms Offered

Objectors Monday were grouped into these classes: Those who believed that marginal wells—the small producers—should not be exempt from curtailment; those who have a market outlet for their oil and oppose any curtailment of present production with the understanding that no expansion will be made; and, finally, those who oppose proration in any manner or form.

Elwood Fouts, attorney for J. S. Abercrombie and Harrison Oil Co., Gulf Coast operators, denounced the entire proration program as an attempt to fix prices and told the commission it was "wasting time in attempting to arrive at equitable production limits for each field."

Fouts would not say after the meeting whether he planned to take the matter to the courts. He said they would wait until "we are stepped on."

The Gulf Production Co., represented by Underwood Nazro, opposed all local committee reports which proposed that marginal wells be exempt, regardless of the method by which it was to be determined when a well was marginal.

Coastal operators and the Laredo Field representative, O. W. Killam, pictured their product as a unique oil which had a ready market, unaffected by or unaffecting the other oil produced in Texas, and that it should therefore be exempt from curtailment.

Argue on Pinching

The Laredo and Coastal operators also declared that their wells would not stand pinching. Coastal representatives proposed as an alternative to pinching present producers the plan of limiting development on the theory that the natural decline of the fields without new wells would in 30 days place production on the Coast at the figure desired, about 150,000 bbls. daily.

Oil from these two fields, it was said, has a high content of an antiknock element, and hence is in great demand. It was stated that should the Coast area be cut to a point where the demand was not equalled, purchasers would go to California or Venezuela for oil of the same quality and that the end wished by other Texas operators of forcing the buyers into Texas fields, which are now neglected, would not be reached.

They declared that to lower the output of Coastal crude would actually lessen the demand for oil from other Texas fields, since the Coastal crude is mixed with other Texas crude to obtain an oil with the benzol content demanded by purchasers.

Gulf Coast Report

P. C. Murphy, chairman of the Gulf Coast area, presented a report at Monday's hearing from that section saying the operators would not agree to a limit, but each of the fields offered a set of rules of its own, generally based on prevention of waste and curtailment of drilling through announced policies of individual operators. The use of screens and other equipment was offered to reduce the oil-gas ratio, that is, to reduce the amount of gas wasted in the production of oil.

With drilling reduced to necessities only, it was argued in protest that the decline in the Gulf Coast area would within 30 days meet the commission's limits. One field was said to have got 24,000 bbls. new production and declined 25,000 bbls. in the same period.

George E. B. Peddy, Elwood Fouts, Will Orgain and others representing various operators in Gulf Coast country, said different conditions and a different grade oil, as well as desire not to damage wells by pinchbacks prevented the acceptance of proration. The same results are being had by their plans, they insisted.

Because the Yount Lee company had reduced its production from 3,150,000 to 1,350,000 bbls. a quarter voluntarily during the last 16 months, Will Orgain of that company protested further reduction. The curtailment voluntarily put into force by this company in the old Spindletop Field has reduced its production to a minimum of the amount for which they have contracts, Mr. Orgain said, and for the commission to include the company in new curtailment as based on present production would be unjust. In order to effect this reduction of production, he said, the company had reduced its drilling rigs from 14 to 5 and all these were not in operation.

Mr. Farrish's Statement

Answering questions by Chairman Neff, President W. S. Farrish said the Humble company engineers had made many investigations and experiments and did not believe wells would be injured by pinching them down, therefore, the Gulf Coast wells could be cut down without hurting them.

As to the reported demands for certain oils, such as in Williamson County and at certain coast points, Mr. Farrish said it was because the price had been cut 40 cents a barrel.

"You have been told there is no waste in the Gulf Coast section," he said, "and I want to say that the greatest waste in the United States has occurred there. Oil has been covering acres and acres of ground and it may come again.

"The position of Humble," he said, "is that the only safe measure of operation is along the lines of restricted and orderly and scientific production. It is a

(Continued on Page 144)

California Output May Show Increase

Playa Del Rey Development Difficult to Halt Owing to Town Lot Drilling. Important Completion at Kettleman Hills

By L. P. Stockman

LOS ANGELES, Calif., Aug. 25.—Crude oil production in California has been fairly well stabilized since the first of June and, while operators have not succeeded in reaching the curtailment objective of 596,000 bbls. per day. State production has been consistently within striking distance of the 600,000-bbl. mark during the past three months. Current production is approximately 200,000 bbls. per day below the 1930 peak of 806,000 bbls. reached during the latter part of February when several flush fields were flowed to the maximum for a period of seven days in order to establish absolute potentials to replace the theoretical potentials which were in use previous to that time.

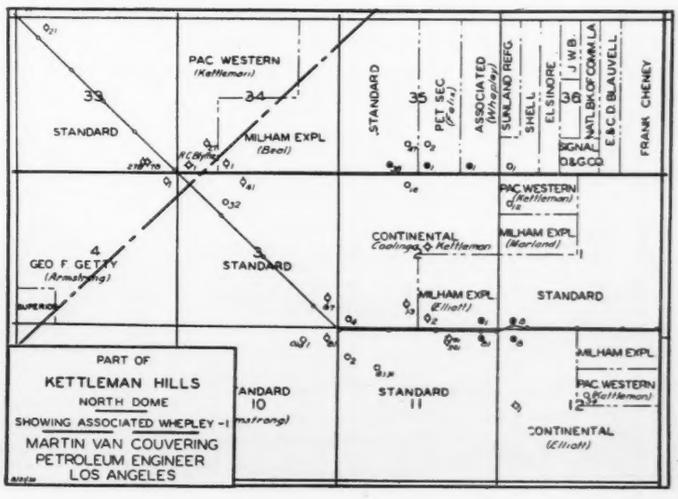
The Playa Del Rey Field of Los Angeles Basin holds the key to the production trend in California during the rest of this year as practically every other producing area is fairly well in hand with respect to curtailment. Playa Del Rey, however, has not yet ratified the statewide curtailment agreement and it does not seem possible that Umpire Neal Anderson and A. T. Jergins, the field chairman, will be able to secure unanimous consent to reduce production. About 50 per cent of the operators at Playa Del Rey have already signed up but the remainder have not shown any inclination to co-operate. It is obvious that no effective curtailment can be made unless at least 75 per cent of the entire field is brought into line. The principal stumbling block is that most operators realize that they must secure maximum production in the shortest length of time because the limited amount of oil sand, less than 100 feet in most cases, will not sustain intensive town lot drilling from an economic standpoint. It appears quite probable therefore that curtailment work at Playa Del Rey will not be especially effective unless disciplinary action is subsequently undertaken or some inducement offered to secure co-operation.

Production May Increase

Recent developments indicate the probability that California's production curve will swing upward again later this year and, while there is nothing to indicate that this should jeopardize general conditions, it will make it obligatory for operators to continue aggressive curtailment for at least another year. This projected increase in State production will be due to development work at Playa Del Rey where a town lot drilling campaign has been under way for several months. It is a little too early to venture a definite opinion as to the possible production peak at Playa Del Rey but it is not at all improbable that the potential production of this field may reach 50,000 bbls. per day, although every indication points to a much lower figure. This may vary one way or the other, depending upon the amount of drilling undertaken and the success or failure of subsequent curtailment work. At any rate, additional development at Playa Del Rey will be reflected in State production with the result that California's daily output should register an increase from week to week in the near future.

It might not be amiss, while commenting on this probable increase in production, to call attention to the fact that Playa Del Rey is a field of secondary importance and that its effect on State production will be commensurate with its relative position with respect to other fields. It is in no way comparable with Santa Fe Springs or Long Beach as the productive oil zones at Playa Del Rey are very limited in thickness. The upper, or Del Rey zone was not found productive in the northern part of the field due to the small amount of sand present. In the southern end of the field this zone is much thicker, however, and should become a factor in field production with additional development as the Union Oil Co.'s No. 1 Del Rey in the southern part of the field is producing 885 bbls. per day from 4,016 feet. The deep Recreation zone encountered around the 6,000-foot level is much larger in areal extent than the shallow Del Rey zone and has yielded several substantial producing wells. This zone, which rests directly on top of the Schist, however, only has a limited amount of oil sand present, about 100 feet, so that its ultimate production should be very small in comparison with other more favorable fields. Whether it thickens in the southern end of the field will not be definitely determined until further information is made available by additional drilling. Based on drilling data, both the upper and lower zones are encountered higher up on the structure in this area than the same horizons are logged in the northern sec-

(Continued on Page 148)



Review of Air Gas-Lift in Seminole

This Production Method Shows High Initial Investment Without Definite Evidence of Gain in Ultimate Recovery

By L. G. E. Bignell
Petroleum Engineering Editor

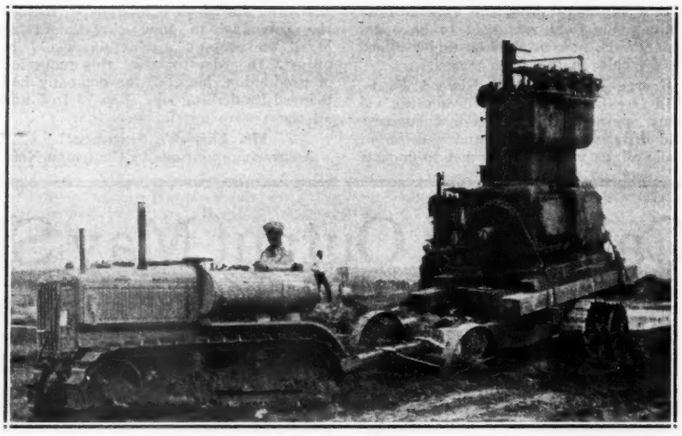
The Seminole area, Oklahoma, opened in July, 1926, proved epoch-making in many ways, and, looking back upon those days of intensive drilling and production, there are many things that stand out as distinctive of the period that seem worthy of review now. There are numerous questions that might be asked and answered and the purpose of this article is to deal with some of them in the light of now known facts.

The air-gas lift practices of the Seminole area have been the subject of much discussion, for there seems to be much difference of opinion as to whether the application of this type of lifting to obtain the oil in such vast quantities was really justified.

After interviewing many men who were actively engaged in the work of drilling and producing wells in the greater Seminole area during 1926, 1927 and 1928 it hardly seems that it would be fair to charge to the air-gas lift methods of production the many conditions that were brought about by overproduction in that field, which resulted in the lowering of prices in that and all other fields.

It has been stated that this price reduction which brought the price of 38° A.P.I. gravity crude oil down from $2 per barrel in November, 1926, when the Seminole and Searight Pools were becoming quite active, to $1.32 per barrel on March 12, 1927, four months prior to the peak of production for the area, caused the refining industry to lose in gross revenue of $1,645,000 daily on the sales of gasoline alone and a further loss when the reduction in prices in other refinery products were taken into consideration; also a loss of $537,309 per day to other Oklahoma producers outside of the Seminole district even though in that outside territory the daily oil produced was only about 100,000 bbls. per day less.

This crude oil price cut after November, 1926, on average grade crudes in various districts was $1.01 per barrel for 36 gravity oil in the Mid-Continent area; 50 cents for 25° crude in California; 50 cents for Pennsylvania grade; 77 cents for Lima, Ohio, oil, and 20 cents per barrel on Grade A Gulf Coast oil. Foreign prices were also affected so the cuts that followed overproduction were far-reaching in their scope and while there have been slight advances since then the $2 price has not been again reached.



Hauling heavy equipment through field in the Seminole area during rainy season.

Overproduction Traced to Seminole

In an article in the April 7, 1927, issue of The Oil and Gas Journal James McIntyre made an analysis of the situation and stated that 6,174 wells were producing half of the oil produced in this country, a total of 2,462,648 bbls. per day, and the other half was coming from 308,075 wells.

Of the 6,174 wells producing half the oil it was found that 330 of them were producing 391,090 bbls. of the excess crude and 51 of those wells were in the deep sand area in Spindletop, Texas, which made 60,000 bbls. of oil daily, while 13 wells in Bowlegs Pool made 38,300 bbls.; 33 wells in Earlsboro, 35,860 bbls.; 24 wells in Searight, 27,700 bbls.; 229 in Seminole City, 229,220 bbls., or a total of 391,090 bbls. per day.

Practically all of these Seminole wells had been on the air lift although they were not all produced in that way in April, 1927, when this analysis was made.

The history of Seminole area shows that the Hunton formation was not very productive of oil but had a fairly good gas pressure and below it in the order named lies the Sylvan shale, Viola limestone and the Upper Simpson formation in which is found the Wilcox sand. The depth of the Wilcox sand in the Seminole area was from 3,900 to 4,500 feet. The initial production from the Wilcox reached 12,000 bbls. of 41 gravity oil per day.

The wells were drilled with rotary to about 3,500 to 3,700 feet and completed with cable tools. It was general practice to set the 6⅝-inch string of casing above the Wilcox before drilling in, but because of crooked holes some wells were finished with 5⅞-inch casing and some with a 4¾-inch string.

Crooked Holes the Rule

Because of the haste in drilling, and also because many of the drilling crews working in the Seminole area were not familiar with that type of formation, the field became quite notorious for the crooked holes that were drilled and later surveys showed that in 182 wells the average deflections from the vertical amounted to 13° 12'.

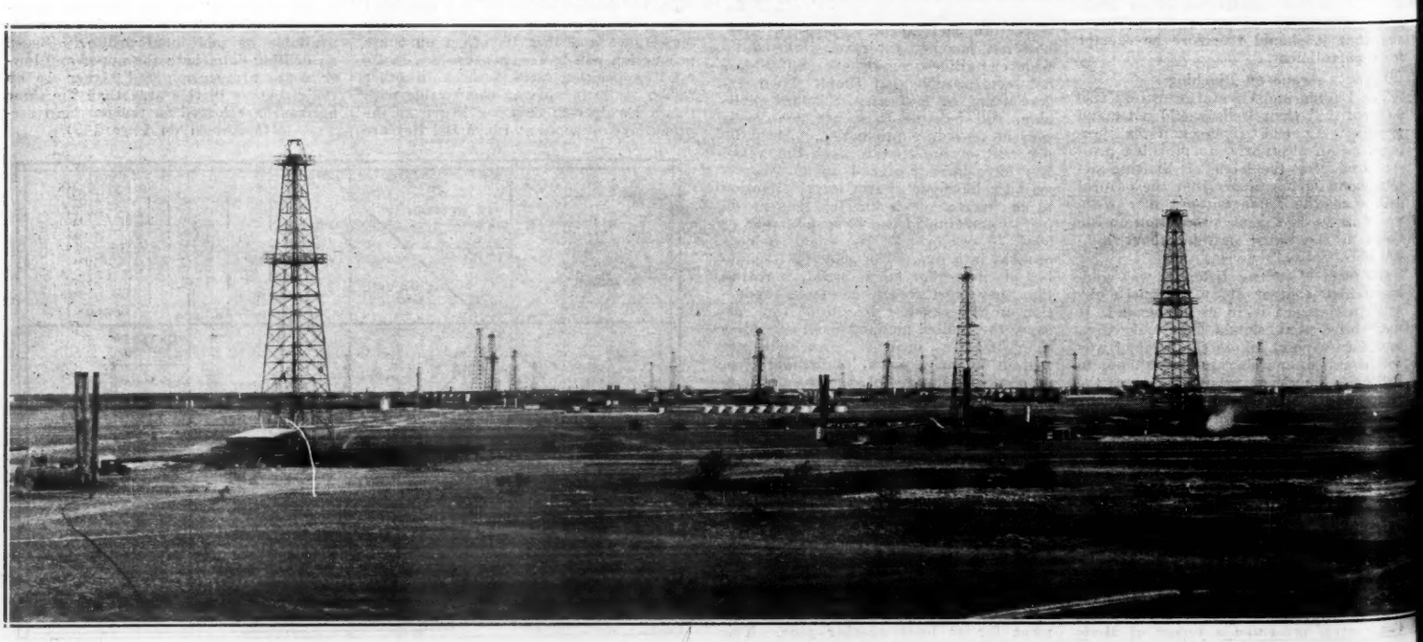
This condition brought about trouble when it became necessary to use artificial means of producing these wells, and the records show that in this area a relatively small number of wells flowed naturally more than two or three months after completion. This short flowing life is due in part to the low formation gas content in the sand which had a general average for the entire Seminole area of from 500 to 1,000 cubic feet as secured from the gas-oil ratio records of wells flowing naturally.

The air-gas lift was tried as early as October, 1926, with an installation of two 8"x3¼"x8" portable compressors and the results were so satisfactory that it was quickly resorted to by nearly all companies and when the peak of installation of compressor plants was reached the purchasers found in many cases that they could not obtain delivery upon machines of the type they desired and were forced to accept whatever was available, which in one instance caused four types of compressors to be installed upon one lease, driven by gas, oil and steam engines and by belt from electric motor.

This condition, and the fact that this type of installation was new to the production man, led to many very inefficient

(Continued on Page 75)

VIEW OF THE HOBBS POOL IN NEW MEXICO SHOWING LONG DI



Repressuring Test at Saratoga Dome

Rio Bravo Company Experimenting With Rejuvenation of Old Sand and Application to New Shallow Production

By Nell Williams

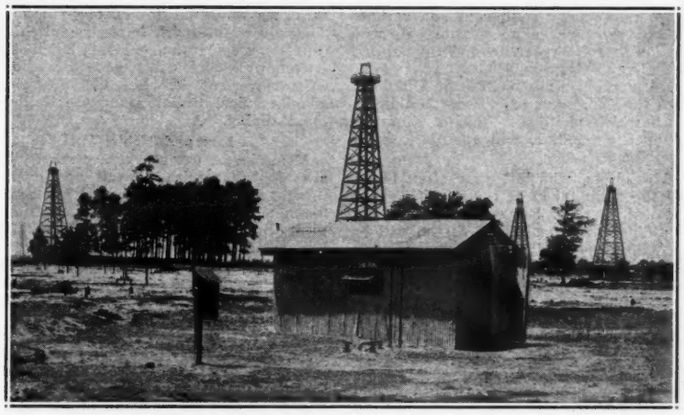
HOUSTON, Tex., Aug. 25.—Another effort to repressure sands at Saratoga, a Gulf Coast salt dome field, is being made by Rio Bravo Oil Co. In this, the company has shifted its work from a 1,000-foot horizon, in which the only tangible result of repressuring was an increase in gas production, to a sand around 500 feet which has just recently been developed. Repressuring operations of the Rio Bravo Oil Co. at Saratoga, which are entirely experimental, are of special interest to coastal operators in that few producers have attempted to rejuvenate the sands of the old salt dome fields, and none of these repressuring attempts has been successful. It might be said that the Saratoga project is the first real attempt to repressure an old Gulf Coast field.

Humble Oil & Refining Co. has had some remarkable results along this line at Sugarland and has just put into operation at Raccoon Bend another repressuring system which is expected to prove successful, but these fields are in their flush stages and are not to be confused with Saratoga and the other old coastal fields. The old salt domes have presented obstacles to repressuring not generally found in fields of other areas or in some of the new coastal fields. The decided lenticularity of oil bearing sands on and around the old salt domes, difficulties arising from old corroded screens, lack of sufficient gas, and other irregularities have stood in the way of successful ventures.

Undaunted by Handicaps

In the face of these handicaps peculiar to salt dome fields, Rio Bravo has undertaken a repressuring program at Saratoga and is continuing the work on the theory that if operations are conducted properly, fields will be found sooner or later where conditions may be favorable. The extremely low cost of repressuring work at Saratoga permits and makes practical the carrying on of experimental work in various parts of the field with a view toward finding favorable conditions.

The part of the field in which Rio Bravo Oil Co. is doing its experimental repressuring is on its J. F. Cotton fee tract on top of the dome. At the time repressuring was started on November 25, 1929, there were two main producing horizons, one at 1,000 feet and the other at 800-900 feet. Since the development of a shallow sand around 500 feet, repressuring operations in the 1,000-foot sand were discontinued June 27 as unfavorable and were started in the new sand.



Building housing compressor at Saratoga. Automatic back pressure regulator valve is shown at left. As the work is entirely experimental only an inexpensive temporary compressor plant has been provided.

The unsuccessful results of repressuring experiments in the 1,000-foot sand were explained by J. Zaba, petroleum engineer of the company, in a paper prepared for an intercompany conference, as probably due to one of two things. These were: First, either the gas found its way from the 1,000-foot sand into some other formation through one of the old abandoned dry holes, or, second, the 1,000-foot sand in this part of the field was so thoroughly drained of oil that even when the migration was established there was no increase in production.

It is most likely that the former was the reason for the unfavorable results. At the time the 1,000-foot horizon was developed operators were not as proficient as they are now in plugging abandoned holes or in sealing off the various formations. Also, as all the casing was old there probably were leaks from corroded pipe. Thus there was every chance for escape of gas through the various horizons.

Fluid Shows in Well

This was borne out in that the 1,000-foot injection well, No. 47, for some time after the abandonment of that repressuring attempt produced dry gas, indicating that the propulsive action of the gas did take place in the 1,000-foot sand and that the lack of results was caused by the blowing of gas into some other formation. However, within the last few days fluid has shown up in the well and this gradually is increasing in volume and it is probable the well will be restored to the production it had before being converted into an injection well.

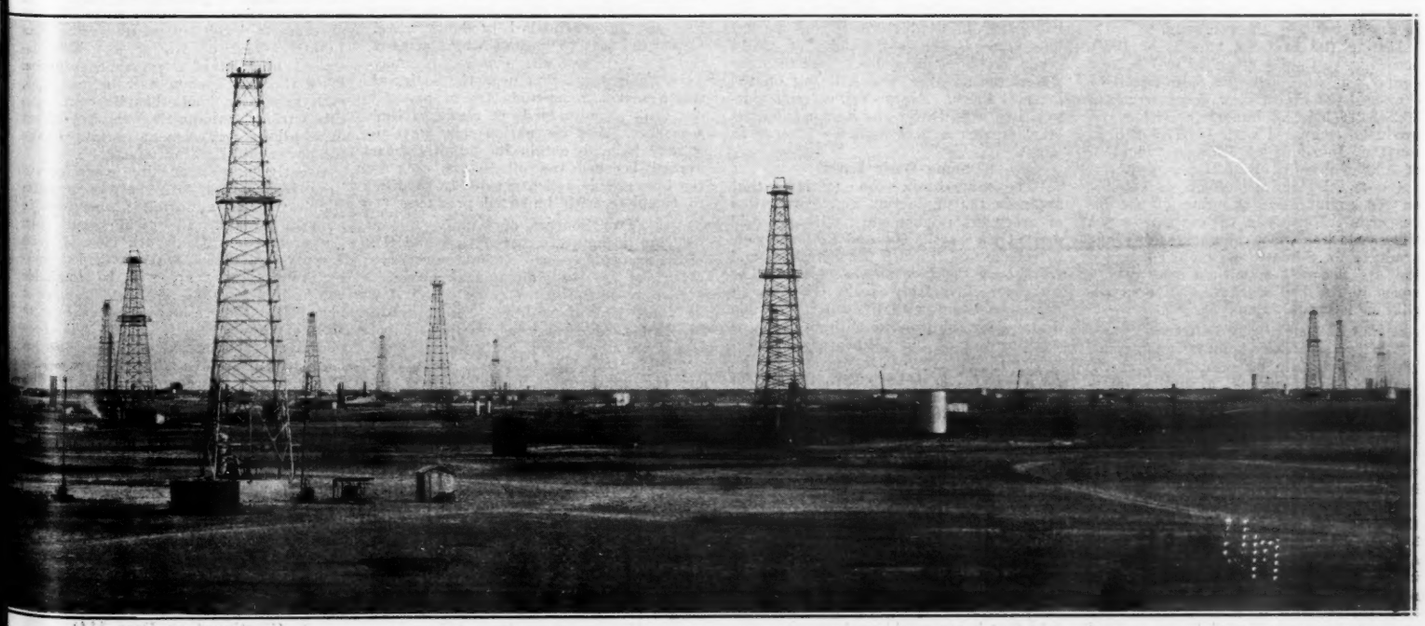
The shift of repressuring to the 500-foot sand is expected to be attended by more favorable results. In this, the sand seems richly saturated; the well are shallow and set in one sandy body; they are spaced with a view to repressuring with locations 200 feet apart; all screens are new and, therefore, not clogged; and, otherwise, conditions seem favorable. In this case, however, the program is not exactly one to repressure a depleted sand as the sand only recently has been developed; but, rather, is one of maintenance of pressure as at Sugarland and Raccoon Bend, which were mentioned previously. Nevertheless, the production from the new Saratoga shallow sand does not represent large flush flow as at Sugarland and Raccoon Bend, the wells being small pumpers; thus, the work is to be compared more closely with the repressuring of the older sands.

The development of this 500-foot sand is indicated in an accompanying map. Wells Nos. 83-A and 82-A were dry gas wells with pressures of 35 and 44 pounds, respectively. Wells Nos. 79-A, 78 and 86-A and 95-A were oil wells with good initial production. No. 80-A was an oil well with small production and Nos. 89-A and 81-A were water wells. Additional wells are to be drilled to prove or define the limits of the productive sand, which apparently extends in a northeastward trend.

Considering this development, as well as the other factors which seem favorable, the success or failure of this repressuring attempt probably hinges on whether this 500-foot horizon is one continuous sand body with three zones, gas on top, oil in the middle and water on the bottom, or whether there are three separate lenses of sands. Contours on the sand showed well No. 83-A structurally high.

(Continued on Page 146)

NCE BETWEEN DERRICKS AND LARGE AREA COVERED BY FIELD



—Photo by R. B. Ward, Staff Photographer, The Oil and Gas Journal.

Oil Show Grounds Get Finishing Touch

Additions and Improvements Add Greatly to Convenience of Visitor and Exhibitor at International Exposition This Year

By Thomas F. Smiley

Finishing touches are being put on improvements which not only increase the space for exhibits but which add enormously to the convenience of both exhibitor and visitor at the International Petroleum Exposition grounds, Tulsa, where the seventh annual show will be held October 4 to 11, inclusive. Scarcely had the curtain dropped on the 1929 exposition before the management, with inadequacies of exhibition space and certain other unsatisfactory features fresh in mind, began planning a program of enlargements and alterations designed to correct these faults. Actual work on this program began last spring, with the result that instead of working frantically to complete it in the last few weeks prior to the opening of the show, there has been an orderly, thorough development of the program. With five weeks remaining before the opening date, the grounds are virtually in readiness now.

The visitor this year will find the east end of the grounds transformed, with many changes noticeable in other parts. Two new buildings constitute the major improvements. These are the Refiners and Marketers Building and the California Building. The Refiners and Marketers Building is in reality an eastward extension of the Oklahoma Building and the California Building is similarly an eastward extension of the Texas Building. Each of these new structures is 240 feet long and, like the building to which it is attached, 60 feet wide. The floor of each is 9 feet lower than the floor of the older building and entrance from the old building to the new one is by way of a 40-foot ramp.

For Refining and Market Equipment

The Refiners and Marketers Building, as its name implies, will be devoted to equipment used in the refining and marketing branches of the oil industry. In former years these exhibits were scattered about in the various existing buildings. The visitor specially interested in equipment of the kind mentioned will find in this new building the latest types of gasoline pumps, tire inflators, car washers, greasing equipment and various other service station accessories. He will find also refinery units and appliances, including miniature stills, agitators, spray pond, etc. The new California Building, like the Oklahoma and Texas Buildings, with which visitors to the oil show already are familiar, will contain general exhibits.

Exhibitors, who last year often found all the room taken in the parking space allotted to them between the Oklahoma Building and Twenty-first Street, will be gratified to find that the parking space for their use has been more than doubled by grading the area between the new Refiners and Marketers Building and East Twenty-first Street and covering it with chat. The total space now available for exhibitors' cars along the south side of the Oklahoma and the Refiners and Marketers Buildings is 750 feet long and 125 feet wide.

The Scientific and Technical Building, which was added to the plant last year, is midway between the new Refiners and Marketers Building on the north and the new California Building on the south. The area, 120'x240', between the Scientific and Technical Building and the Refiners and Marketers Building has been leveled and covered with chat and will be used for open air exhibits. The similar space between the Scientific and Technical Building and the California Building has been graded, but has not been surfaced. It is readily available for further expansion of the space for exhibitors. It was said to be probable that this area would be thrown open for outdoor diversions, with horseshoe pitching contests for old time oil men as likely. A chat walk across this space will afford easy movement between the Scientific and Technical Building and the California Building.

Bar and Footrail

Memories of other days are stirred by a 60-foot bar with footrail and everything which has been installed along the north side of the Scientific and Technical Building. This is the sandwich bar, where sandwiches, soft drinks, coffee, tea and milk will be served. A dumb waiter communicates with the kitchen and storage room below, so that the patron will not be annoyed by heat from the stove or the sight of dish and bottle washing. Just off this sandwich bar is a lounge 20'x30', which is to be carpeted and provided with chairs. Here patrons who wish to eat and drink in unhurried comfort may do so.

The restaurant, formerly operated by a concessionnaire but this year conducted by the exposition management, has been made just twice as large as it was. Two types of service will be offered. One half of the big room will be devoted to table d'hote, or family style, meals. The other half is a cafeteria, where the patron, supplying himself with tray, silver and napkin as he enters, will order whatever appeals to his appetite as he moves along the counter.

Taking the place of the inadequate provisions of former years, commodious and well appointed toilet rooms have been installed in the Refiners and Marketers Building and the California Building. Enormous septic tanks, buried in the ground, receive all waste water and sewage.

Water fountains have been placed at convenient points about the grounds, including two in each of the major exhibition buildings. There are 24 altogether. Telephones for local or long distance service are provided. The management has not even forgotten to have a bootblack stand.

The automatic pump station, which drew much attention last year, has been made more interesting by several additions to the equipment, including a Wiggins floating deck tank. In the demonstrations which will be conducted during the exposition the operation of a field station and a booster station will be shown transporting oil to storage supposedly many miles distant.

Much Spent for Electrical System

About $90,000 has been expended on the improvements made this year and 20 per cent of this, or about $18,000, has been devoted to electrical equipment alone. An electrical control room in the Refiners and Marketers Building controls the entire electrical system of the exposition grounds with the exception of the superintendent's building and the administration building. A short circuit or other accident in former years was likely to result in protracted loss of light and power. With the centralized control and the parallel system of wiring installed danger of such annoyance in the future is eliminated. In case of a short circuit it is now a simple matter to plug out the particular part of the system affected until the needed repair or adjustment is made. Much of the old electrical wiring was torn out in order to make the improvements decided upon and more than 1,000,000 feet of wiring has been installed, all part of a permanent system. With the new system now in operation, each exhibition booth has its own separate wiring, enabling the exhibitor to put in whatever arrangement he may choose for power and lighting effects.

Greatly enlarged parking space for visitors is expected to remove a problem which reached annoying proportions in preceding years. The field across from the grounds on the south side of East Twenty-first Street, which afforded parking room last year, will be available again, but in addition there will be a plot 900'x250' available along the north side of the grounds. This has been placed at the disposal of the exposition management by the Tulsa County Fair Board, which has co-operated to the fullest extent with the exposition board of directors in the effort to make the oil show a complete success. The added parking area extends from the race track grandstand on the east to the exposition superintendent's residence on the west.

Four More Turnstiles

Further contributing to the convenience of visitors and exhibitors are four new turnstiles, two on the north side of the grounds and two on the south side. This improvement will remove the need in many cases for long walks to reach the

(Continued on Page 114)

New Jersey Company Curtails Imports

Shipments of Crude and Products From Abroad 17.27 Per Cent Less in First Six Months. Need for General Reduction

NEW YORK, Aug. 25.—Standard Oil Co. of New Jersey has materially curtailed its imports of crude petroleum and refined products during the current year, in line with curtailment programs voluntarily adopted by leading factors in the industry in domestic markets, according to a statement by the company.

During the first six months of 1930, according to figures compiled by the New Jersey company, domestic subsidiaries of Standard Oil Co. of New Jersey received 10,235,277 bbls. in imports of crude and products, compared with 12,371,902 bbls. for the first half of 1929, a reduction of 2,136,625 bbls., or 17.27 per cent.

Commenting on the effects of imports on the conservation program of the industry in this country, the company says: "The time was when the amount of crude produced in Sumatra no more concerned the American oil man than a stray silk worm in the United States bothered the silk industry of Japan.

Picture Entirely Different

"Today the picture is entirely different. The same factors of scientific research, new sources of supply, expanding markets and better understanding between nations which combined over a period of years to break down old policies of exclusion and broaden the field of international trade have worked a corresponding change in the oil business.

"Nationalities have been forgotten, in the great undertaking of stalking the black genii of power through his haunts all over the globe, to an extent unknown in practically any other human enterprise. American and British oil engineers have worked side by side in Iraq. The geologist from the United States is likely to meet a party from Holland in his rovings through Venezuela. International in its benefits, petroleum in its production, transportation, refining and marketing has likewise become an international problem.

"Every new field, regardless of the boundary lines which man and nature have drawn across the lake of world crude supply, is a pebble tossed into the water, the effect of which is felt on the farthest shore. Every drop in crude output, like a pail of water taken from the lake, creates a backwash, be it ever so slight.

Same Basic Laws

"The same basic economic laws that apply in the production and distribution of every other commodity with a world market govern the ebb and flow of crude petroleum and finished products back and forth over the face of the globe. The consumer invariably seeks the lowest price consistent with the quality of and demand for the product he buys, and the working out of this elementary law extends all the way back to the source. All other things being equal, the refiner looks for the best crude that will answer his requirements at the lowest price. If it costs less to transport by tanker than by pipe line, it comes by tanker, or vice versa. If gasoline is wanted and straightrun appears more economical and advantageous in our hypothetical case than cracking, then straightrun is used. And so on down the line.

"That is one side of the picture. Now see what happens to the numerous rivulets that flow from hundreds of different fields all over the globe into the vast lake that is our world crude supply.

"Petroleum, like any other raw material, seeks its most favorable market, no matter in what corner of the world it may have been discovered. Foreign oil finds its way into the United States in addition to domestic production in exactly the same way that American gasoline and other finished products travel across the seas to nations which already produce their own oil. One country may have flush production near the seaboard which makes it possible for it to send out tank steamer loads of crude to find a market. And the nation right next to it may have to obtain its supplies from abroad because the oil in its hills is too inaccessible and expensive to produce to complete with imported products.

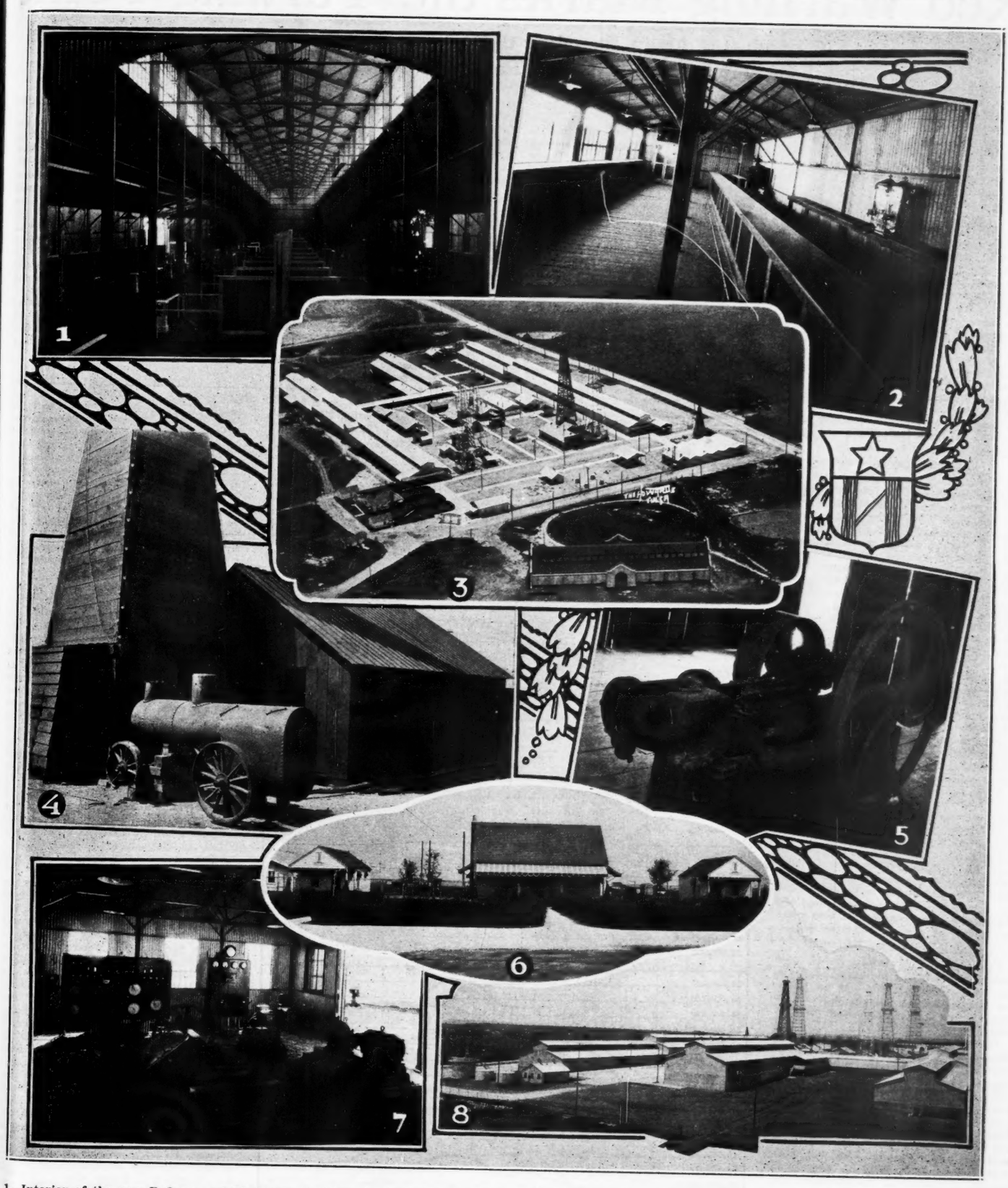
Two Sources of Supply

"Thus it happens that nature and the ordinary workings of economic laws have given the American oil man two sources of supply—domestic and foreign. Today he finds himself with too much oil on his hands. Let's see where the trouble lies.

"Taking the last 10 years, which covers the approximate period of oversupply in the United States, we find in the accompanying table that imports of crude and products have remained practically constant, while domestic production has more than doubled. Imports in 1929 were practically the same as they were in 1920, with the increase in 1921 and 1922 more than offset by reductions in later years. Moreover, for the past seven years, more oil has been going out than coming in, exports overbalancing imports by nearly 300,000,000 bbls., or 47 per cent during that period. During

(Continued on Page 147)

Where They Are Getting Ready for the Oil Show



1—Interior of the new Refiners and Marketers Building. 2—Sandwich bar. It is 60 feet long and the door at the end opens upon a comfortable lounge. 3—The exposition grounds as seen from an airplane. 4—Drake well replica in its permanent location, with old-time boiler outside. 5—Ancient Climax engine in the Drake well engine house. 6—First-aid station, with rest-room on each side. 7—Interior of automatic pump station. 8—Grounds as viewed from the race-track grandstand, which adjoins the grounds on the east. At the left are the new Refiners and Marketers Building and the automatic pump station with its field and storage tanks. In the center is the Scientific and Technical Building, with the new sandwich bar alongside it. At the right is the new California Building. Between the Refiners and Marketers Building and the Scientific and Technical Building is the new chat-covered open-air space for exhibits. The corresponding space between the Scientific and Technical Building and the California Building has been graded but not surfaced.

Red Warning Marks the Turning Point

Oil Industry Again Rounding the Corner but Should Beware of Crashing Through Guard Rail, Says New Jersey Organ

NEW YORK, Aug. 25.—The American petroleum industry is at the turning point with continued curtailment of both refinery operations and crude oil production necessary if a balance is to be attained and stocks reduced in line with the recommendations of the Federal Oil Conservation Board, according to "The Lamp," official organ of the Standard Oil Co. (New Jersey), in its forthcoming issue.

"Corners are treacherous affairs," says "The Lamp." "Many a speed maniac has gone hurtling over a cliff on a dark night because his headlights failed to pick up the red warning that marked the curve.

"Right at present the oil refiner is in just about the same position. He is coming to a turn—an old familiar one, it is true, though it never ceases to fool him. Each year he goes crashing through the guard rail, in spite of warning signs all along the road, with resulting injuries of varying painfulness. But the next year, he is right back doing the same thing all over again.

An Infallible Barometer

"Study the accompanying chart and note the trend of that infallible barometer of the industry—gasoline supply and demand. Each year, in the month of September, consumption of motor fuel begins its normal decline which continues right on to the end of the year, and from there into January or February. Naturally, the observer would expect to see a corresponding reduction in gasoline output.

"Instead, the refiner has gone on full tilt, running his plants at practically the same rate as during the peak summer period, with the result that every single year has found an increase in gasoline stocks during the last two months. December, in fact, comes pretty close to the peak figures each year for both refinery output and finished stocks.

"So pronounced has been this trend that even in the years when the refiner has reduced his throughput for the fall period to some extent, gasoline stocks still continue to pile up. And so important is it that, in a certain sense at least, the additions to storage every fall may be said to be to blame for the big surplus with which the industry is burdened today. For, whereas the past 10 years have seen a total increase in gasoline stocks of approximately 32,000,000 bbls., if we add up the additions to storage during the months of November and December for the same period, they reach the staggering sum of 40,000,000 bbls.

Good Ending; Fine Beginning

"Reverse the old maxim to 'A good ending makes a fine beginning,' and you have one excellent reason why the industry has started off certain years in so much better statistical position than in others.

"In 1925, November and December showed an increase in gasoline stocks of but 2,965,000 bbls., while the supply and demand lines on the chart remain fairly close together. The result was that, up until the fall, 1926, appeared as a fairly good year. The same was true of the first part of 1928, after additions to storage in the last two months of 1927 were held to approximately 3,000,000 bbls. Now look at 1929. With an increase in gasoline stocks during the November and December previous of 6,631,000 bbls., the industry started off the year with supply and demand as far apart as the poles. But instead of improving the situation any, the fall of 1929 brought only a further piling up of surplus gasoline when more than 8,000,000 bbls. were thrown into already overloaded storage tanks during the last two months.

"To the outsider, it is something of a puzzle as to why the refiner should have to carry more in his tanks than bare working stocks at any time. In fact, this practice was very strongly recommended by the Federal Oil Conservation Board in its report last May. The capacity of the oil refineries of the United States, considering the increased yield of gasoline from cracking during the past few years, is more than ample currently to take care of the greatest demand the country has yet made for motor fuel, with no drafts upon stocks whatsoever.

"With the shortening of daylight hours, the end of vacations, tours and long drives in the hot summer evenings, and the return to schools and colleges of thousands of young motorists, a normal drop in gasoline consumption may be expected from September on to the end of the year. Reduced refinery operations during the summer months this year has resulted in some decrease in stocks, but figures for the week ending August 16 still show 41,252,000 bbls. of gasoline on the industry's hands—far more than it needs.

Course Is Plain

"Right now, the course of the refiner would seem to be reasonably plain. All he has to do is to watch the records for gasoline production and the sale of motor fuel on his own books, and keep them in balance. There was never any reason why stocks should have been allowed to pile up to the extent they have in nearly every fall season at a time when the consumption line drops off year after year—and even less today, when the excess running of gasoline in 1928 and 1929 has overburdened the industry with a big excess of stored products.

"Nothing can be accomplished, of course, so long as the refining branch of the industry continues to race along right through the fall at the same clip it held during the peak season.

"If the individual refiner will maintain his stocks at an even level from the end of September on, it is more than likely that the close of the year will come pretty close to seeing a reduction in excess storage by something like the 5,000,000 bbls. recommended as a minimum last spring by the Government's Committee on Petroleum Economics, thus enabling the industry to take a brace and start off 1931 in a considerably healthier statistical position than it has seen in quite a spell.

Cause of Overproduction

"Production of crude oil is never by accident. It is the result of man's directed effort. He does not plow for potatoes nor dig a water well and suddenly find himself the owner of an oil producer. If he is seeking crude petroleum he is engaged in a serious business enterprise.

"To the man in the street, the whole overproduction situation is just a bit puzzling. In his own line of work, which may be roller skates or dry goods or almost anything else, he knows that when the stock on his shelves begins to pile up faster than he can move it off, he has only to cut out ordering until his inventories again reach a satisfactory level. Back at the factory, when orders begin to slacken off, it is likewise a simple matter. Production is merely slowed up or shut down until supply and demand once more achieve a balance.

"'Why in the name of common sense,' he might naturally ask his friend the oil man, 'do you keep on drilling your fool head off when you have more oil than you can use right now?'

"It does seem to require an answer.

"If all drills were racked in the tool house for a few months, consumption of oil would overtake production and bring about the much desired reduction in our heavy stocks aboveground. The market would then be on a normal supply and demand basis. A great many millions of dollars now consumed each year in wasteful production and heavy carrying charges would be saved to the public and the industry could prosper without any noticeable increase in prices to the ultimate consumer. Utopia in the oil business, and yet almost as impractical as Sir Thomas More's dream country.

Peculiar Conditions

"The production of petroleum is governed by peculiar conditions not found in any other industry. To a certain extent it is taken out of the hands of the producers by obligations which they cannot avoid. Consequently, it is not always possible for a company or individual to cease drilling entirely, even when he recognizes the fact that there is no demand for more oil. In some instances leases with promising possibilities are about to expire, and must be drilled in to prevent loss of the acreage. In many other instances there is a legal obligation to drill wells to offset those on adjoining leases that have been brought in. Rights of the landowner must be safeguarded in such cases, for if drilling were put off too long the oil underlying the surface would be drained off by the wells already completed.

"The famous Long Beach, California, Field furnishes one example of the difficulty of holding drilling operations down to an economic basis even though all of the established companies may favor it. Another obstacle universally met is the natural desire of people to cash in early profits wherever the opportunity offers. Each new producing area brings in new capitalists, large and small. Many of these are not informed as to the true situation and they have in mind only the immediate returns promised them by successful drilling. A well coming in at 5,000 bbls. per day or even more is a common occurrence. Such a well may produce in the first 100 days from completion 200,000 to 300,000 bbls. of crude. Even though the price posted in the field drops from $1.50 to 75 cents a barrel such a prolific well proves exceedingly profitable during the period of natural flow when there is no pumping expense. Hence, operators go ahead with drilling plans and adjoining lease holders are compelled to follow suit.

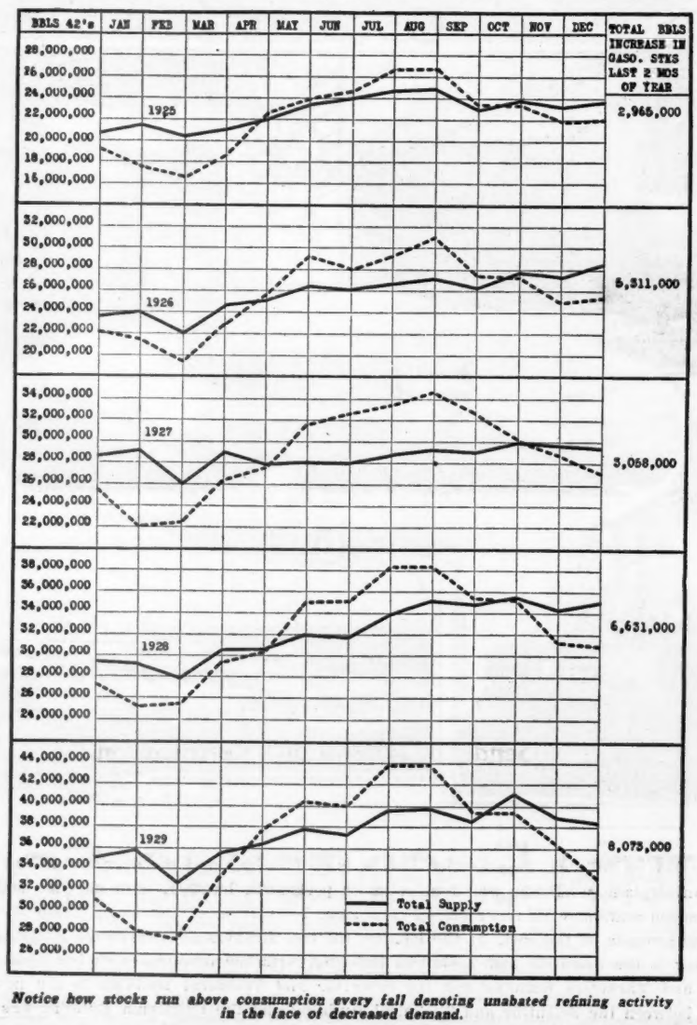
Wildcatting Chances

"Recognizing these fundamental factors, the industry has good reason to be proud of such measure of reform as has been realized. In late years serious efforts have been made to lessen the amount of unnecessary drilling.

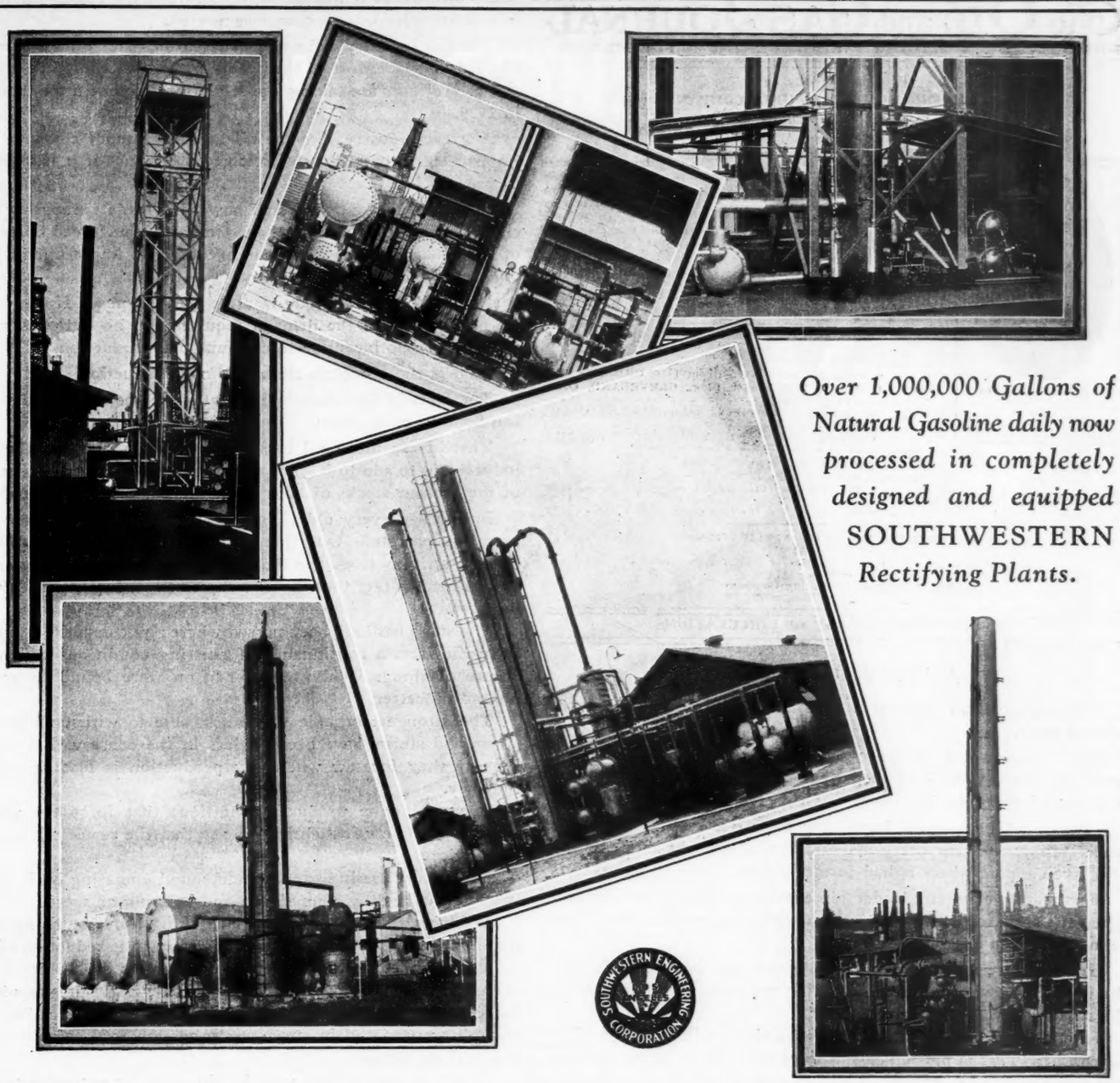
"Under the old hit-or-miss method of

(Continued on Page 147)

FIVE-YEAR RECORD OF GASOLINE SUPPLY AND DEMAND



Notice how stocks run above consumption every fall denoting unabated refining activity in the face of decreased demand.



Over 1,000,000 Gallons of Natural Gasoline daily now processed in completely designed and equipped SOUTHWESTERN *Rectifying Plants.*

SOUTHWESTERN devoted several years of research to a study of Rectification, eliminating various methods in favor of the one finally adopted.

The result is a plant of remarkable flexibility, precise fractionation and easily controlled operation. Production can be varied to suit conditions.

Send for bulletin on "Rectification."

SOUTHWESTERN ENGINEERING CORPORATION

606 SOUTH HILL STREET
LOS ANGELES, CALIFORNIA

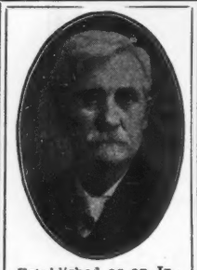
Branch
605 Mayo Bldg.,
TULSA, OKLA.

Branch
117 Liberty St.
NEW YORK, N. Y.

The OIL and GAS JOURNAL

PRODUCING REFINING ENGINEERING MARKETING

Published Weekly by
THE PETROLEUM PUBLISHING COMPANY
114-116 West Second Street
TULSA, OKLA.



Established as an International Publication in 1910 by Patrick C. Boyle.

President - - - - - - - - - - - Frank T. Lauinger
General Manager - - - - - - - - - John M. Egan
Editor - - - - - - - - - - - - James McIntyre
Managing Editor - - - - - - - - Andrew M. Rowley
Refinery Editor - - - - - - - - - C. O. Willson
Technical Editor - - - - - - Charles K. Francis, Ph.D.
Petroleum Engineering Editor - - - - L. G. E. Bignell
Associate Editor - - - - - - - - - W. T. Anderson
Associate Editor - - - - - - - - W. T. Ziegenhain
Associate Editor - - - - - - - - Thomas F. Smiley
Advertising Manager - - - - - - - - E. Klappenbach
Circulation Manager - - - - - - - Simon H. Rourke

DISTRICT ADVERTISING OFFICES
C. L. CAIN - - - - 101 Park Ave., NEW YORK CITY
L. AUSTIN DE VORE - - - - - - - - - - - - - - - - - - 6 North Michigan Ave., Room 1416, CHICAGO, ILL.
LOUIS D. WEST, 1105 Leader Bldg., CLEVELAND, OHIO
R. P. (SALTY) CLARK - - - - - - - - - - - - - - - - - 730 Petroleum Securities Bldg., LOS ANGELES, CALIF.
C. R. FARMER - 1316 Second National Bank Bldg., HOUSTON, TEX.

TERMS OF SUBSCRIPTION
(By Mail, Postage Prepaid)

Single copies - - - - - - - - -	$ .15	One year (in United States) - - -	$6.00
Three months - - - - - - - - -	$2.00	One year (in Canada) - - - - -	$7.00
Six months - - - - - - - - -	$3.00	One year (foreign countries) - - -	$7.00

ADVERTISING RATES ON APPLICATION
Telephone: 3-6291
Remittances by Checks, Drafts, Express or Postal Money Orders should be made payable to
The Petroleum Publishing Company
Cable address, "Oilgasnal"

MEMBER AUDIT BUREAU OF CIRCULATIONS

A WEEK OF CRISIS

The conservation movement has just passed through its most critical week.

The situation ten days ago was anything but hopeful. There have been times when it seemed all the work of the past four years was to go for naught, but never was this feeling so pronounced.

It was not because of increasing opposition or weakening of leadership, but to temporary disheartenment brought about by lack of active support where it had formerly been given aggressively.

Fortunately energetic leadership exerted itself and not only rectified the situation, but put the conservation movement on a firmer foundation than ever.

The industry was told very plainly that any hope of gain from the breaking down of the conservation program was delusive, and the reasoning was bluntly to the point.

In any movement requiring sacrifice there will be some effort to avoid it. This is particularly true of the oil-producing industry where the element of chance is still a large factor, despite the gain in technical knowledge and engineering skill.

Sudden possession of oil, obtained after heavy investment, promotes the desire for quick realization in cash, even if throwing the oil on the market means a loss in returns. This may apply either to the producer or to his backer.

Conservation seeks to prevent that loss which is not limited to an individual inviting it but reacts upon the entire industry in broken markets and in economic waste of a national resource.

The effective way of dealing with this problem is, after all, not so much statutory or administrative as it is economic.

If the industry makes up its mind not to take any more oil than the demand requires, no matter at what price, that would settle it.

Cutting the price is not a sufficient remedy for overproduction. If the oil can still be disposed of and realized upon, even though at a sacrifice, some of it will be dumped on the market just as distress gasoline has been in the past.

But if there were no outlet for excess oil at any price overproduction would have to stop.

Obviously, there have been difficulties in the way of any such program. The excessive individualism which almost brought the industry to ruin through competitive overproduction prevented that otherwise simple solution. It was difficult to forego the chance of cheap oil, just as it was difficult to forego the opportunity to cash in at some price when money was needed.

But the industry is being educated on that point in the school of hard knocks. Most of the producers graduated a good while ago and the refiners are taking a post-graduate course after their lesson in 1929.

A great industry like the oil business cannot continue to risk its markets through the defection of a few, not if it has the power to prevent it.

It has not been a question of power but of determination to exercise it. That determination seems to have been forced by the stress of circumstances and all that is needed is to impress it in practice upon every unit in the industry.

No one is obliged to buy what he does not need. If there is more oil produced than the demand requires and no outlet is available there can be no incentive to continue overproduction.

That is the economic answer to overproduction.

The facts in the situation have now become so plain that no one can hope to evade them.

There is so much oil in storage and in sight that there is no inducement to add to it. The immediate need, rather, is a reduction of the present stocks of both crude and manufactured products.

Practically every old field is curtailed and every new area is promptly prorated. Only here and there local or individual interests are striving to escape the inevitable and sooner or later to run up against the fact that there is an economic limit which they cannot pass.

The stage has long been passed where any competitor could hope to profit from a continuance of existing conditions which in the nature of things if allowed to run on were bound to get worse instead of better.

The strongest organizations, best able to withstand periods of stress and storm, have been leaders in the conservation movement because they foresaw where overproduction is leading the whole industry.

Overproduction produces conditions that force the weaker to the wall, and how foolish it is to say that the remedy is more overproduction.

Only when the industry is on a sound operating basis can there be hope for healthy competition and winning on merit.

We have all been thinking and talking about stopping overproduction. Actually what we must now turn to is reduction of stocks.

That has been emphasized this summer by the failure to realize the usual ratio of increase in consumption. Some progress has been made towards curtailing runs to stills, but it was not begun soon enough or persisted in consistently enough to accomplish all that should have been.

This year's operations were handicapped by excessive operations last year, and an overhanging surplus at the opening of the main consuming season.

Extreme care should be taken this year that this is not repeated and the 1931 season imperiled before it starts.

There is yet time to do something effective, although it will require drastic methods persistently carried out.

Reduction of stocks is the goal to be kept in view constantly. Every time it is forgotten and overproduction results simply means postponing the return of full-tide prosperity to the industry.

So, whether the question is curtailment of crude production or curtailment of runs to stills, it must be looked at not from the individual or local expediency for the moment, but from the longer and broader view of ultimate effects.

If refiners charted their operations each fall in line with the seasonal reduction in consumption they would find the situation vastly improved.

On the contrary, it has been the practice, almost without exception, to maintain throughput despite declining demand, and as a result the largest addition to stocks has been made in this season of the year.

The sooner we get rid of those staggering stocks the quicker the industry will get to its feet and into a normal stride.

GAS LINE CONSTRUCTION
CENTERS
IN
DRESSER COUPLINGS
DRESSER
During the last half-century, Dressers have progressed with your Industry—and your Industry has progressed with Dressers. Over 100,000 miles of Dresser Coupled pipe lines have been laid. Today's construction of strong, flexible, *permanently tight* joints centers inevitably in Dressers.
S. R. DRESSER MANUFACTURING CO.
Bradford, Pennsylvania
COUPLINGS
DOMINATE

Study Effect of Varying Acid Treats

Results Shown on Paraffin Base Lubricants Differ From Those of Naphthenic Base

By R. S. Jackson, A. C. Hutson, M. K. Thornton, Jr., and A. D. Boswell
Texas A. & M. College

This study was undertaken to investigate further the effect of variations in the amount of acid upon the properties of lubricating oils, and to learn whether the results obtained would substantiate the work of Thornton, Neighbors and Keith on napththenic base oils.[1]

Theory

The chemistry of treating is too detailed to discuss very thoroughly in a paper of this length, but in general it may be briefly reviewed as follows:[2]

1. Paraffins and naphthenes are practically unattacked at normal temperatures although at high temperatures sulphonation and oxidation may occur.

2. There is practically no reaction between aromatic compounds and the acid at normal temperatures, but at higher temperatures sulphonic acids may be formed.

It is possible though, to have a reaction between the above mentioned types of compounds and the acid, if there are other substances present which are acted upon by the acid.[2] Concentrated acid may react in several ways with unsaturated compounds,[2] namely, polymerization, oxidation and by the addition of sulphuric acid to the double bonds with the formation of acid or neutral esters. Resinous and asphaltic substances are polymerized, oxidized or form unstable addition products with the sulphuric acid. It is also believed that adsorption of some of these products in the sulphuric acid takes place.

Sulphur compounds react according to the nature of the compound.[3] The reactions may result as follows:

1. Mercaptans are oxidized to form alkyl disulphides which are soluble in the treated oil.

2. Sulphides and disulphides are dissolved by the sulphuric acid or form addition products with the acid and are thus carried into the sludge.

3. Thiophenes are converted to thiophene sulphonic acids which are partly soluble in the sulphuric acid.

4. Sulphoxides and sulphones are appreciable soluble in the sulphuric acid.

5. Sulphides and mercaptans may be oxidized to sulphones, sulphoxides and sulphonic acids.

When, in the refining of cracked distillates, the olefines react with the sulphuric acid to form acid or neutral esters, the neutral esters are not removed by an alkaline wash, while the acid esters are. The larger the amount of acid used the smaller the proportion of neutral esters formed.[4] The larger the amount of acid used the larger the amount of polymerization of unsaturated compounds during the treat.[3]

The refining effect produced is not proportional to the quantity of acid used, as several other factors enter into the process. These other variables are temperature at which treated, concentration of acid used, composition of the stock under treatment, and thoroughness of the washing. These variables were kept constant as nearly as possible during the treatment of the oil, the only variable being the quantity of the acid used.

Procedure

In these experiments one liter of oil was used in every case. The oil and acid were agitated with air until a heavy "pepper" was obtained. The tar was then coagulated by adding a few cubic centimeters of water. The oil was filtered through well washed cheese cloth to be certain that all of the tarry material was removed.

After removing the sludge, the oil was immediately made alkaline by successive "dumps" or sodium hydroxide. This was done to convert all of the acid esters, sulphonic and naphthenic acids to soaps which are water soluble. Great care was taken in the adding of the caustic to prevent the formation of emulsions. However, some emulsions were formed in several of these "treats" but were broken out very easily by heating the mixture to 200°F. In some cases, the emulsions broke out after continued washing with water.

After the oils were treated the following determinations were carefully made: viscosity, color, flash, fire, interfacial and surface tension, static coefficient of friction,[5-7] tar value, Conradson carbon

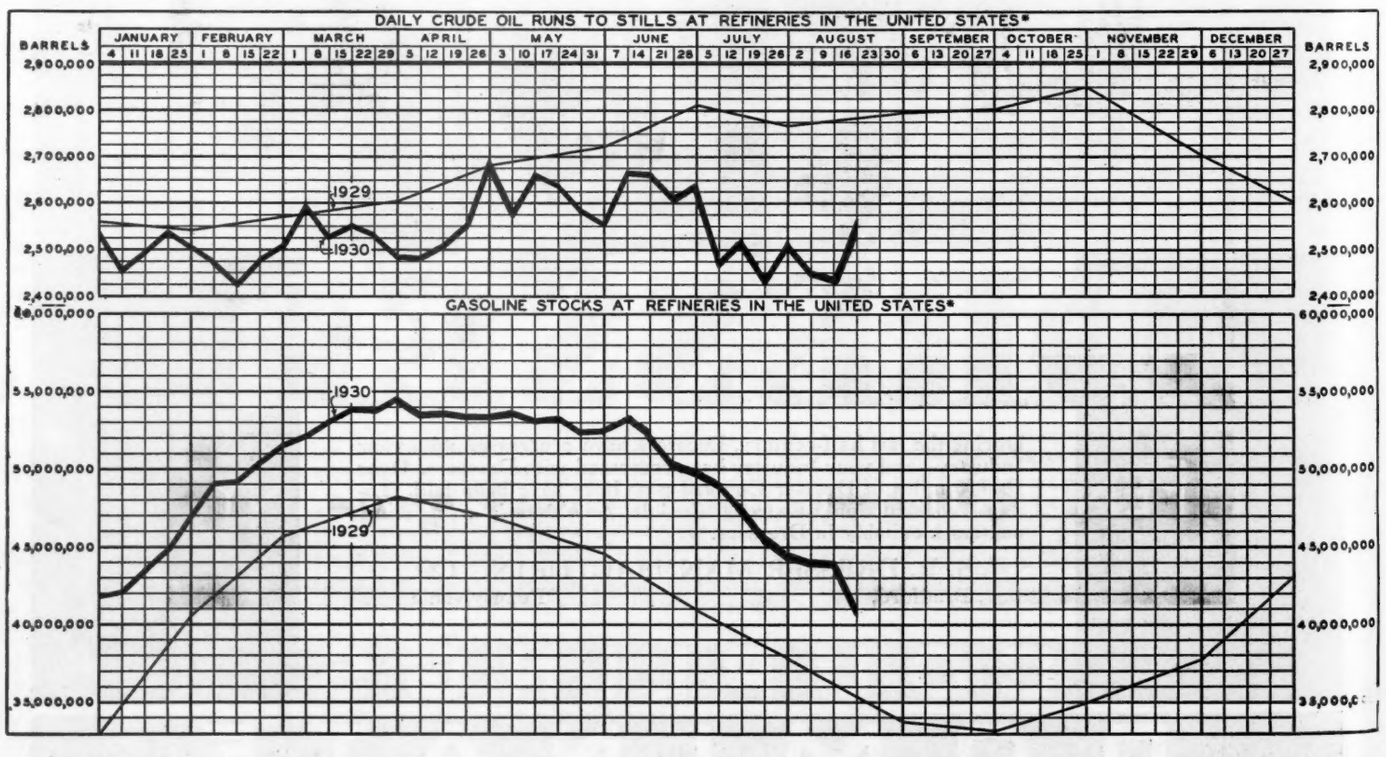
(Continued on Page 113)

AMERICAN PETROLEUM INSTITUTE WEEKLY REFINERY STATISTICS

The weekly report made to the American Petroleum Institute on refinery statistics—crude runs to stills, gasoline stocks and gas and fuel oil stocks in barrels—for the week ending August 23.

	Week ending August 23				Week ending August 16				Week ending January 4			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100	512,600	5,555,000	10,622,000	100.0	493,400	6,198,000	9,995,000	100.0	454,857	5,998,000	7,431,000
Appalachian	91.8	89,400	1,324,000	1,014,000	91.8	86,400	1,382,900	1,087,000	91.6	75,571	1,282,000	805,000
Indiana, Illinois, Kentucky	99.6	302,800	6,356,000	4,408,000	99.6	300,900	6,419,000	4,355,000	98.6	289,800	5,483,000	3,505,000
Oklahoma, Kansas, Missouri	89.3	258,600	3,157,000	4,086,000	89.9	276,200	3,324,000	4,816,000	87.7	263,428	3,604,000	3,277,000
Texas	90.4	583,600	6,169,000	10,439,000	90.4	590,700	6,339,000	10,415,000	90.7	539,857	6,590,000	13,757,000
Louisiana and Arkansas	96.8	167,700	1,356,000	1,849,000	96.8	177,400	1,522,000	1,796,000	96.8	160,000	2,161,000	4,499,000
Rocky Mountain	93.6	63,600	2,141,000	1,212,000	93.6	63,300	2,237,000	1,215,000	93.3	41,614	2,273,000	973,000
California	99.3	573,300	13,784,000	105,562,000	99.3	574,400	13,831,000	105,481,000	99.3	642,857	14,826,000	109,770,000
Total United States	95.6	2,551,600	39,842,000	139,192,000	95.7	2,562,700	41,252,000	139,160,000	95.4	2,468,285	42,217,000	144,017,000
Texas Gulf Coast	100	442,900	4,927,000	7,524,000	100.0	442,400	5,087,000	7,421,000	100.0	429,585	5,579,000	10,792,000
Louisiana Gulf Coast	100	115,700	1,048,000	1,097,000	100.0	125,000	1,212,000	1,021,000	100.0	108,514	1,877,000	3,818,000

(1) Per cent of refinery capacity represented. (2) Daily crude runs to stills. (3) Gasoline stocks. (4) Gas and fuel oil stocks.

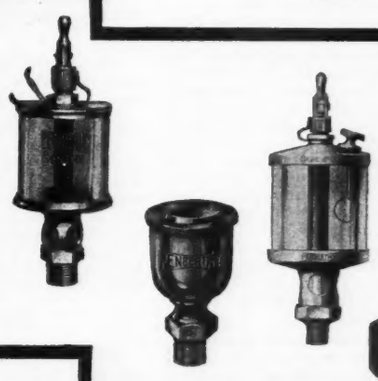


*Data for 1930 based on weekly reports of the American Petroleum Institute. Data for 1929 derived from monthly reports of the Bureau of Mines, Department of Commerce. Figures for last week not shown in graph but are included in above tables.

ALWAYS DEPENDABLE

PENBERTHY injectors, liquid level gages, and lubricating devices are universally used in field, refinery and natural gasoline plant because they have always been dependable under the most severe service conditions.

Penberthy Products are carried in stock by supply houses everywhere.



PENBERTHY PRODUCTS

PENBERTHY INJECTOR COMPANY
DETROIT
ESTABLISHED IN 1886 CANADIAN PLANT, WINDSOR, ONT.

550,000 BBLS. PER DAY FROM OKLAHOMA DURING SEPTEMBER

Producers in all the fields in Oklahoma that are under proration orders of the Oklahoma Corporation Commission unanimously agreed to the recommendation of the State's proration committee that the commission be asked to extend the July and August amended proration order into September.

The committee recommended that the production of the State be kept down to an average of 550,000 bbls. per day. The schedule as adopted by the committee and ratified at the producers' meeting on Friday was published in The Oil and Gas Journal last week. It limits Oklahoma City to 88,903 bbls. per day, or about 12½ per cent of potential. It applies a 50 per cent curtailment to Allen, Bowlegs, Carr City, the old Earlsboro Pool, Earlsboro townsite, Little River, East Little River, Marshall, Lovell, Maud, Mission, Sasakwa, Searight, Seminole City, East Seminole and St. Louis, which allows those pools a combined daily production of 146,634 bbls. per day. East Earlsboro may produce 25 per cent, with a minimum of 15,000 bbls., and South Earlsboro 25 per cent, allowing the two pools a minimum of 23,750 bbls. West Asher (Wanette) and Konowa may produce 18¾ per cent, or a combined production of 23,750 bbls. Several new pools are allowed a maximum as follows: Tatums, 2,500 bbls.; Chandler, 2,500 bbls.; West Perry, 600 bbls.; Orlando, 400 bbls., and Township 20n-4w (Garfield County), 400 bbls., a total of 6,400 bbls. This allows a total of 290,000 bbls. per day in the curtailed areas, while the older fields of the State, none of them under proration, are estimated at 260,000 bbls., giving the State a 550,000-bbl. production out of a conservatively estimated total potential of 1,481,118 bbls.

An amendment to the paragraph bearing on the production of wildcat wells that may come in after August 31 was offered by the Amerada Petroleum Co. and adopted. The proration committee had recommended that such wildcats be limited to 50 bbls. per day production. It was contended that this robbed the wildcatter of his discovery rights, which had been accorded all other discoverers of new pools since proration began, and a provision was made that if any well is started in the discovery well's drainage area the discovery well may produce fully until the second well is completed. If no other such well is started the 50-bbl. per day provision of the committee's recommendation stands.

Enforcing Commission's Orders

Harry H. Smith, secretary and counsel for the Mid-Continent Oil and Gas Association made an interesting statement in regard to the several ways of legally proceeding against alleged violators of the State Corporation Commission's orders on the curtailment of oil production. The statement was occasioned by the fact that doubt had been expressed that the commission had authority to enforce its orders. A committee of leading oil attorneys considering the matter worked out four ways of bringing action against

(Continued on Page 148)

OIL MAN'S CALENDAR

SEPTEMBER

1-3—Tulsa, Okla., A.P.I. Central Group on Automotive Transportation, Mayo Hotel.

2-4—Toronto, Ontario, North American Gas Tax Conference, King Edward Hotel.

4-5—Southwestern district, A.P.I. Division of Production, Buccaneer Hotel, Galveston, Tex.

5—New Kensington, Pa., Test of Aluminum Alloy Tank Truck Tanks.

8-12—Cincinnati, Ohio, eightieth meeting, American Chemical Society, Hotel Gibson.

17—Columbus, Ohio, Ohio Petroleum Marketers Association, Deshler-Wallick Hotel.

17-19—Atlantic City, N. J., National Petroleum Association, Hotel Traymore.

29-Oct. 4—Pittsburgh, Pa., Petroleum Section, National Safety Council.

OCTOBER

2—Tulsa, Okla., General Committees, A.P.I. Division of Production and Marketing.

3—Tulsa, Okla., General Committee, A.P.I. Division of Refining.

3—Tulsa, Okla., Board of Directors, American Petroleum Institute, Mayo Hotel.

4-11—Tulsa, Okla., International Petroleum Exposition and Congress.

6-8—Tulsa, Okla., National Petroleum meeting, American Society of Mechanical Engineers.

6-11—Washington, D. C., sixth International Road Congress.

6-11—Washington, D. C., Exhibition, American Roadbuilders Association.

13-17—Atlantic City, N. J., American Gas Association, Auditorium.

14-16—Kansas City, Mo., Convention, Big Four State Jobbers.

16-25—London, England, Oylmpia Motor Show.

20-22—St. Louis, Mo., Petroleum Refiners division, National Association of Credit Men.

22-24—Pittsburgh, Pa., transportation meeting, Society of Automotive Engineers.

NOVEMBER

2-5—St. Louis, Ma., Marketing Congress, Independent Oil Men of America, Statler Hotel.

6-11—Berlin, Germany, International Automobile Show.

10-13—Chicago, eleventh annual meeting, American Petroleum Institute, Stevens Hotel.

DECEMBER

1-5—Memphis, Tenn., ninth annual Asphalt Paving Conference, the Asphalt Institute and Association of Asphalt Paving Technologists.

JANUARY

3-10—New York, National Automobile Show.

24-31—Chicago, National Automobile Show.

Late Fields

BIG WELL AT HOBBS

HOBBS, N. Mex., Aug. 26.—The Gypsy Oil Co. completed its No. 3 W. D. Grimes in NE NE SW, Section 32-18s-38e, on August 24 in the Terry lime for a potential of approximately 29,000 bbls. daily. The Terry lime was topped at 3,985 feet and the total depth of the well is 4,154 feet. The first flow through the 3-inch tubing was 345 bbls. per hour, and then on test through tubing and casing the well made 259 bbls. in the first 15 minutes' test after the hour's flow. During the second 15-minute test through tubing and casing the well made 345 bbls. or at the rate of 28,992 bbls. per 24 hours. The flow of gas through the 3-inch tubing was approximately 4,000,000 feet and through the tubing and casing was 12,000,000 feet. This is the largest well in the Hobbs Field to date.

NORTH LOUISIANA

SHREVEPORT, La., Aug. 26.—With dry holes between it and original Bellevue production and gas wells on either side, Harry Morgan's No. 2 Kendricks, in the NE SE, Section 22-19-11, Bellevue district of Bossier Parish, a mile south of production, is estimated good for 500 bbls. 45 gravity oil with 20,000,000 feet of gas; total depth 1,800 feet. Production is coming from Oolitic lime which has heretofore produced only gas on the southwest flank of Bellevue Dome. Well started showing wet gas Saturday, began blowing boulders Sunday, Monday was getting wetter and wetter and Tuesday is classed as a producer, mystifying operators acquainted with Bellevue characteristics. Oil from 400-foot Bellevue horizon is 19 to 21 gravity, Grade A Gulf Coast crude.

MISSISSIPPI

SHREVEPORT, La., Aug. 26.—Ohio Oil Co.'s No. 1 Payne, SE NE, Section 12-5-1e, Rankin County, Mississippi, blew in while coming out with core barrel estimated 50,000,000 feet of gas with no water. It is 3 feet in chalk, total depth 2,394 feet. Morris Gilbeaux, derrick man, was fatally injured when gas knocked him from derrick. Well was running wild with part of drill stem in hole.

NORTH TEXAS

FORT WORTH, Tex., Aug. 26.—P. R. Flake and others' No. 1 J. A. Bell in NW Section 14, Block 5, Clarke and Plumb Survey, 4 miles southeast of Archer City, Archer County, encountered an oil sand from 1,148-51 feet and is swabbing at rate of 150 bbls. per day. This well is in wildcat territory and promises a new producing area for the county.

KANSAS

Gypsy Oil Co. has purchased a half interest in the wildcat test and block around the United Petroleum Co.'s No. 1 Wellman, NE cor. Section 29-21-9w, Reno County. The test was started by the United Petroleum Co. and has been shut down at 1,000 feet for some time.

A new oil test is being started in Ellsworth County by Aladdin Petroleum Corp. and E. W. Marland, Inc., on the Barecky farm in Section 3-16-10w. Tools are being moved in and it is expected to be spudded in a few days.

The Texas Company's No. 1 Thompson, SE cor. SW NW Section 21-20-10w, Rice County, in the Schurr Pool, is shut down at 3,280 feet, and the casing will be landed after getting a hole full of water in the Schurr sand. It may be completed during the week and may extend the production west a quarter of a mile.

Syndicate Oil & Gas Co. and others are moving in a rig for No. 1 in the SW cor. NE Section 4-16-11w, Barton County. The test is the north offset to the Prairie Oil & Gas Co.'s discovery well in Barton County which is considered a 350-bbl. well but is shut in on account of the lack of pipe line facilities. It is the second test in the area and is located on Twin State Oil Co.'s acreage. Fisher & Laucks' No. 1 Shaffer, NW cor. SE NW Section 30-27-2, in Eastborough Pool, Sedgwick, was drilled 4 feet deeper and swabbed 20 bbls. an hour. The total depth of the well is 2,971 feet, in chat.

OKLAHOMA

Amerada Petroleum Corp. and Dixie Oil Co.'s No. 1 Chase, NW cor. NE SW Section 29-9-6, which opens a new producing area southeast of East Earlsboro Pool, swabbed 1,160 bbls. in 19½ hours from the Wilcox sand. The sand was found at 4,087-4,116 feet. It is the outstanding development in the Greater Seminole area, and may open another major producing area as several dry holes have been drilled between it and the main East Earlsboro Pool.

Amerada Petroleum Corp.'s No. 1 Tiger, NW cor. NE SW Section 3-8-5, west of the Mission Pool, is believed to

(Continued on Page 152)

High Spots in Field News

SOUTHWEST TEXAS
Second oil well completed in Saxet Gas Field.

GULF COAST
Barbers Hill and Humble most active on Gulf Coast.

NORTH TEXAS AND PANHANDLE
New area in Carson County. Cooke County test has oil sand.

OKLAHOMA
New pool likely in Seminole. Tatums Pool growing in importance.

ROCKY MOUNTAIN AREA
Test to Pennsylvanian on Meeker Dome. Record well in the Osage.

WEST TEXAS
Leck Pool, Winkler County, extended. Show in Fisher County well.

CALIFORNIA
State production may increase. Difficulty in holding Playa Del Rey owing to townlot drilling.

EAST CENTRAL TEXAS
Humble well in Van Zandt County one of best in field, makes 30 bbls. in 30 minutes on choke.

NORTH LOUISIANA
Bellevue well, mile south of production, estimated 500 bbls. 45-gravity oil and 20,000,000 feet of gas.

KANSAS
Western counties feature in Kansas. Drive follows discovery in Rice County. Hugoton gas area extended.

NEW MEXICO
Gypsy Oil Co.'s No. 3 W. D. Grimes has potential of 29,000 bbls., largest well in Hobbs Field. Eight new locations announced. Field potential now over 278,000 bbls.

SCORE CARD ON OIL PRODUCTION

Below is shown allotted average daily production in the United States, April to December, inclusive, suggested by the Committee on Economics of the Federal Oil Conservation Board, and the actual daily average production during the week ending August 23:

	Allotted (bbls.)	Actual (bbls.)	Over (bbls.)	Under (bbls.)
California	610,000	604,750	.....	5,250
Oklahoma	655,000	566,335	.....	88,665
Texas	750,000	830,845	80,845	.....
Other fields	480,000	473,467	.....	6,533
Total	2,495,000	2,475,397	80,845	100,448

Net underproduction 19,603 bbls. per day.

New Pool Looms in Seminole County

Amerada and Dixie Hit Productive Spot in Section 29-9-6. Tatums Pool in Carter County Grows in Importance

By W. A. Spinney
Staff Correspondent, Oklahoma Fields

Production in Oklahoma increased 18,000 bbls. a day in the week ending August 23. The swing upward was mostly caused by an increase in the Oklahoma City Pool and the Tatums Pool in Carter County, southern Oklahoma. The State averaged approximately 566,000 bbls. a day during the seven days.

The Tatums Pool in Carter County has been estimated to be capable of producing 12,000 bbls. a day by the first of September. The operators estimated production in the Tatums area to be 5,000 bbls. a day from the present completed wells if allowed to flow wide open. A curtailment plan was agreed upon and became effective August 10. Wirt Franklin Petroleum Corp.'s No. 3 Mitchell, SW cor. NE SE Section 24-1s-3w, in the Tatums Pool, flowed 1,350 bbls. the first 19 hours and was shut in for tankage. C. L. Anderson's No. 3 Eaves, SE cor. NE SW Section 24-1s-3w, was swabbing 60 bbls. an hour and the oil recovery was increasing. The pay was found in sand at 2,300-2,455 feet. Magnolia Petroleum Co.'s No. 3 Spigner, NE cor. NW Section 24-1s-3w, swabbed and flowed 407 bbls. in 24 hours from a series of sands at 2,268-2,500 feet. Same operators' No. 1 Hooks, SW cor. NE Section 24-1s-3w, Carter County, flowed 1,232 bbls. the first 24 hours from a series of sands at 2,186-2,450 feet.

Wild wells in the Oklahoma City Pool are now easily tamed. The most recent well to run wild had new master gates in place in 10 hours. Tom Slick Oil Co.'s No. 1 Alexander, in Section 2-11-3w, broke through the connections and was out of control until a new set of master gates were installed. The well was estimated at 15,000 bbls. of oil and 50,000,000 feet of gas. It cut the connections and the upper gates were opened and most of the oil was saved, going into the stock tanks.

Amerada Petroleum Corp. and Dixie Oil Co.'s No. 1, in the NW cor. NE SW Section 29-9-6, south of the East Earlsboro Pool and west of the Seminole City Pool, has opened a new producing area. The well swabbed 1,455 bbls. the first 24-hour swabbing test from the Wilcox sand at 4,087-4,116 feet.

Proration Continued

Operators in the Oklahoma City Field agreed to continue the present proration plan for another 30 days from September 2, when the old plan expires. The schedules to remain the same as in July and August. Under the former schedule the Oklahoma City Field was allowed an open maximum flow of 25 per cent of the potential flow. Voluntary agreement of the operators curtailed the flow to 8⅓ per cent of the potential, because of the impossibility of moving the maximum allowable flow. This will permit the wells to flow from 15 to 16 hours out of each 12-day period. It was further agreed to keep the time plan in force rather than curtail the wells on the volume plan or pinching the production.

The pipe line companies serving the field have agreed to handle the same amount of the crude which is a maximum of 85,000 bbls. a day on a daily average from the Oklahoma City Field.

Another gusher was completed within a mile of the city hall, inside the city limits on the east edge of Oklahoma City. It is located on the lowlands, just inside the city limits. Most of the land in the vicinity is under oil and gas lease. The well is located close to an industrial and warehouse section. It is the Tom Slick Oil Co.'s No. 1 Campbell, in approximately the NE cor. SE NE, Section 3-11-3w. The well ranks as one of the field's largest. It made 1,800 bbls. the first hour, 1,625 bbls. the second hour and 1,667 bbls. the third hour. It made a total of 13,875 bbls. the first eight hours. The total depth of the well is 6,567 feet, in Simpson sand. The surrounding area is platted territory, divided into city lots.

Another well was completed inside the city limits, Indian Territory Illuminating Oil Co.'s No. 1 View Point, NE cor. SW SE, Section 10-11-3w, near Hall & Briscoe' No. 1 Holmes which extended the field more than a mile. It flowed 257 bbls. of oil the first 15 minutes and was then shut to make new connections. The total depth was 6,430 feet, in Simpson sand. The gas volume was estimated at 20,000,000 feet. The well is practically surrounded by homes in the View Point Addition to Capitol Hill and precautions were taken to prevent the oil from damaging nearby property.

The south Oklahoma City Field has been averaging three completions daily during the month of August. The new locations have been slowing down and many express the opinion the drilling operations in the field may all be completed in a few months. The field has a total of about 765 operations, of which 426 are completed and 339 are drilling.

Prairie Oil & Gas Co.'s No. 7 Sigmon, NE cor. NW SW Section 32-11-2w, extended production a quarter mile east in the extreme southeast of the field. The well was bailed in through a mud and sand trap and turned into the tanks. The flow was pinched through a 1½-inch choke. It was estimated to be good for 15,000 bbls. of oil. The first 16 hours' gauge, pinched, was 2,565 bbls., and the gas volume was estimated at 18,000,000 feet. The well is one location east of the company's No. 1 Sigmon, which ran wild for several days when completed. The completion of this well has exploded the theory that the fault line was close by and many now believe the entire lease may be productive.

Sinclair Oil & Gas Co.'s No. 5 School Land 67, NW cor. SE Section 36-11-3w, in the southwestern part of the field, was drilled only 100 feet from the old Firestone test which was abandoned at 4,479 feet in 1922. The well made 8,808 bbls. the first six hours, with an estimated gas volume of 35,000,000 feet. The Firestone well was started in 1920 and completed near the end of 1922. It had a few showings of gas but none worth while. Back in the early days L. E. Trout blocked 18,000 acres, most of which is now the Oklahoma City Pool, and made a deal with the Firestone Oil Co. of Newton, Kans., to drill the well to 3,500 feet. The Firestone Oil Co. gave up the well at 3,507 feet and Trout and others made a contract with Creekmore & Green to drill it to 4,000 feet, at which depth another contract was made with Ramsey Oil Co. to go 500 feet more. However, at 4,479 feet the contractors ran out of hole and were unable to drill any deeper, The test was drilled with standard tools from the surface and considerable underreaming was necessary.

West Extension

John Mabee & H. Blackstone, independent operators, extended the production almost a half mile west by the completion of No. 2 Harvey, SW cor. SE SE Section 15-11-3w, which started to flow at the rate of 90 bbls. an hour and settled to 60 bbls. an hour. It made 675 bbls. the first three hours. The total depth of the well is 6,614 feet, in Simpson sand.

Tom Slick Oil Co's No. 1 Trumbley, NW cor. NW SW, Section 2-11-3w, was bailed down 1,000 feet and showed little oil. It made 202,000,000 feet of gas with but a small quantity of oil and was shut in almost immediately. The total depth of the well is 6,566 feet, in Simpson sand. Same operator's No. 1 Daugherty, SW cor. SE NW, Section 2-11-3w, was bailed in from a total depth of 6,575 feet, and was shut in. It was later opened and made 175 bbls. the first hour and 2,611 bbls. the first 18 hours, with an estimated 10,000,000 feet of gas.

Wirt Franklin Petroleum Corp.'s No. 9 Lowery, NW cor. NE NW, Section 12-11-3w, in the north end of the pool, was completed and made 664 bbls. the first hour. The gas volume was estimated at 70,000,000 feet. The well gauged 8,756 bbls. the first 16½ hours. The total depth is 6,470 feet, in Simpson sand.

Indian Territory Illuminating Oil Co.'s No. 4 C. Trosper, SW cor. NE, Section 14-11-3w, was completed and shut in and refused to flow when opened the next day. The operators were preparing to bail down. The total depth of the test is 6,563 feet in Simpson sand.

Cromwell-Franklin Oil Co.'s No. 1 Lincoln Park, SW cor., Section 12-12-3w, a wildcat north of production in the Oklahoma City Field, was coring sandy shale at 4,406 feet, but nothing was showing. It is about at this depth that shallow production is expected. It was drilling at 4,474 feet.

Magnolia Petroleum Co. and Ramsey Petroleum Co.'s No. 1 Johnson, NE cor. SW, Section 35-13-3w, a wildcat near Britton, was drilled to a total depth of 7,212 feet with nothing showing. It will be plugged back to 6,506 feet to test a showing of gas.

Tom Slick Oil Co.'s No. 1 Atkinson, C W half W half NW, Section 2-11-3w, in the north end of the field, was completed and made 889 bbls. the first hour and 771 bbls. the second hour, and 11,340 bbls. the first 18 hours. The total depth of the well is 6,449 feet, in Simpson sand. The well is located near the city's pesthouse property.

Finding the Edges

The south end of the Oklahoma City Field appears to be defined. Some of the edge tests in that area found water and others made small wells. Prairie Oil & Gas Co.'s No. 1 V. Sudik, NW cor., Section 5-10-2w, Cleveland County, the most southeasterly test in the field, was bailed down and found water from a total depth of 6,881 feet. It may be drilled deeper to test these formations. Indian Territory Illuminating Oil Co.'s No. 1 Reynolds, NE cor. NW, Section 6-10-2w, Cleveland County, swabbed 128 bbls. of oil in five hours from a total depth of 6,705 feet. Same operator's No. 2 Reynolds, SE cor. NE NW, Section 6-10-2w, Cleveland County, was drilling deeper at 6,697 feet with a showing of oil.

Leasing in Grady County

Lease trading is still active in Grady County, much of the county being leased in checkerboards but a few companies are forming blocks. Recent transactions show the play is extending over a wide area even within the old dry hole areas. British-American Oil Co. has been taking considerable acreage in the northern part of the county. The Texas Company has also been buying in the same territory. Tom Slick Oil Co. is closing up considerable acreage purchased from Cal-Cul Oil Co.

Wild Gas Well in Wanette

Prairie Oil & Gas Co.'s No. 3 Tomlin, SE cor. NW NW, Section 23-6-3, in the Wanette Pool, in Pottawatomie County, was running wild. The well was estimated to be making 50,000,000 feet of gas and considerable water. It cratered in half dozen places and the company is attempting to land the 10-inch casing at 2,000 feet and if successful the well may be capped. Several attempts to cement the 8-inch casing at the total depth of 3,445 feet have been unsuccessful. Precautions against fire have been taken. The well is one location east of the same company's No. 1 Tomlin, one of the largest oil producers in the pool.

Extension in Logan County

Prairie Oil & Gas Co.'s No. 1 Elrod, NE cor. SE SW, Section 31-19-4w, in the northwestern part of Logan County, has extended production to the southwest in the Roxana Pool. The well blew in when it reached the Oswego lime at 5,405-07 feet. The gas was estimated at 10,000,000 feet and the oil at 150 bbls. a day. There were no connections on the

(Continued on Page 74)

WILDCAT OPERATIONS IN OKLAHOMA

(Descriptions are East and North unless marked otherwise)

NORTHERN OKLAHOMA

ALFALFA COUNTY

Company, farm and location—	Remarks:
Smith Brothers' No. 1 Forbes, SE cor. NW NW Sec. 12-27-11w	Shut down 1,232 ft.
J. W. Bailey's No. 1 Acre, SW cor. NE Sec. 14-24-11w	Rigging up standard tools 4,660 ft.; cleaning out.

BECKHAM COUNTY

Ray Johnson and J. R. Cuniff's No. 1 Brower, C NW Sec. 29-10-22w	Shut down 3,784 ft.
Producers Exploration Co.'s No. 1 Sidell, SE cor. SW SW Sec. 17-9-22w	Shut down 2,402 ft.
Carson et al's No. 1 Danby, SW cor. SE NE Sec. 20-8-22w	Drlg. cement plug 1,594 ft.

BLAINE COUNTY

Lowen et al's No. 1 Unknown, NW cor. SW NW Sec. 17-16-11w	Spudded and S.D.; abandoned
Washoma Oil Co. et al's No. 1 Phillips, C NW SW Sec. 13-19-10w	Shut down 3,730 ft.

CADDO COUNTY

Simms Pet. Co.'s No. 1 Cobsa, SW NW Sec. 24-6-11 w	Rig.
W. J. Hartley's No. 1 Galbreath, SE cor. NW SE Sec. 29-5-12w	Shut down 3,394 ft.

CHEROKEE COUNTY

Weaver & Proctor's No. 1 Benge, NE SE Sec. 8-14-21	Drlg. 405 ft.

CLEVELAND COUNTY

Harris et al's No. 1 Highbee, SE NW Sec. 20-6-1	Shut down 6,518 ft.
Daniels & LeWright's No. 1 Vanlever, C SW Sec. 15-7-1w	Shut down 3,130 ft.

COAL COUNTY

A. M. Van Orden's No. 1 Jamison, SE NW Sec. 31-1-9	Shut down 1,600 ft.
Blackwell O. & G. Co.'s No. 1 L. Jackson, NW cor. Sec. 26-3-9	Shut down 3,365 ft.
W. E. McGraw's No. 1 King, C SW NE Sec. 11-1-8e	Shut down 3,030 ft.

COMANCHE COUNTY

Croy & Young's No. 1 Cline, NW NE NE Sec. 8-3-10w	Rig.
Shasta Oil Co.'s No. 1 Romwalt, SW NW Sec. 11-2-10w	Shut down 1,709 ft.
G. W. Stogner's No. 1 Doebel, C SW SW Sec. 3-3-9w	Shut down 1,450 ft.
Green et al's No. 1 Wilson, C NE SW Sec. 14-1-12w	Shut down 4,055 ft.

(Continued on Page 168)

Western Counties Feature Kansas Field

Leasing Drive Follows Important Discovery in Rice County. Hugoton Gas Area Extended in Stevens County

By W. A. Spinney
Staff Correspondent, Kansas Fields

Field operations in the different areas in Kansas in the past week were of little importance as far as new production was concerned. The State's daily average production for the week ending August 23 was approximately 114,300 bbls. which compares with the previous week's output under proration.

The Eastborough Pool in Sedgwick County, is the State's most active area from an oil development standpoint while the Hugoton gas area in Stevens and Morton Counties is receiving an intensive gas development. The Voshell Pool in McPherson County is expected to quieten when the four tests now nearing the pay horizons are completed in a few days. These completions are expected to mark the end of the present development of drilling operations in the Voshell Pool, which has been the State's most active oil district this year. A total of 109 wells have been completed in the pool as producers.

The Hugoton gas area was extended by the Missouri-Kansas Pipe Line Co.'s No. 1 Parsons, in Section 4-31-37w, northern Stevens County. The well is estimated to be a 6,000,000-foot gas producer and extends production within a mile of the Grant County, Oklahoma, line. The gas was found from 2,510-70 feet. Two other wells were completed, the Argus Production Co.'s No. 1 Button, C SE, Section 1-33-39w, Morton County, with 8,000,000 feet of gas at 2,546-2,700 feet and the same company's No. 1 Mangle, C NE, Section 20-33-39w, Morton County, which had the gas horizon at 2,460-2,710 feet, and was completed for 8,000,000 feet of gas.

Tenth Producer in Eastborough

The tenth producer was added to the new pool in Eastborough, east of Wichita, Sedgwick County, during the week. Fisher & Lauck's No. 3 Trustee, NE cor. NW SE, Section 19-27-2, Sedgwick County found oil in the chat at 2,965-75 feet, where it made 175 bbls. the first seven hours. Drilling operations were suspended to pull the big pipe and it may be drilled deeper in a few days. The same operators made a location for No. 7 Trustee, NW cor. NE NE, Section 19-27-2.

Derby Oil Co.'s No. 1 Rimel, NW cor. NE NE, Section 30-27-2, Sedgwick County, had a showing of oil in the chat at 2,950-75 feet, which was estimated at 9 bbls. per hour. The company plans to drill the test to the Simpson sand horizon around 3,240 feet. The test is an offset to the only Simpson sand producer in the pool, which was completed for 1,200 bbls. the first 24 hours, from sand at 3,238-42 feet.

Pipe Line Completed

The Vickers Petroleum Co. has completed its 4-inch pipe line from the company's lease in the Eastborough Pool to its refinery at Potwin, Butler County, in the Eldorado district. The company has leased a 55,000-bbl. tank near its refinery which will be used to take the surplus oil. A total of about 2,000 bbls. a day was handled through the new line the first day. The line connects with the Empire Oil & Refining Co.'s pipe line and with the Vickers Petroleum Co. line from the Valley Center Pool, which also connects with the refinery.

Blackwell Petroleum Co. is moving in material for its first test in Kansas. The location is No. 1 Drollinger, NE cor. SW NW, Section 31-27-2, in the Eastborough Pool, in Sedgwick County. It is located three locations east of an old abandoned test drilled to a total depth of 3,060 feet.

The Eastborough Pool is one of the active areas in Kansas. New wells were spudding while 15 other wells were at various stages of drilling. Magnolia Petroleum Co.'s No. 1 Wheeler, in Section 30-27-2, on the Eastborough estates, was spudding. National Refining Co.'s No. 1 Murdock, SW cor. SE SE, Section 18-27-2, was spudding. It is the most northerly test in the area.

In McPherson County

W. E. McPherson has made a location to drill a shallow gas test in the SE cor. SW, Section 11-20-5w, McPherson County, where the Mid-Kansas Oil & Gas Co. recently completed a dry hole in the deep formation but found what was estimated to be 3,000,000 feet of gas between 1,000 and 1,100 feet. If the gas test is successful the operators named plan to drill several other tests in the vicinity.

A recent survey of the Voshell Pool, in McPherson County, shows that 26 of the 109 completed wells in the pool are shut in, and that 83 wells made 13,575 bbls. under the proration plan. The pool averaged 9,217 bbls. for the seven days ending August 18. Derby Oil Co.'s Stuckey lease in Section 9-21-3w, produced 1,055 bbls. per day from eight wells, pinched, in the same period. The eight wells have a potential of 7,000 bbls. a day.

Rice County's Big Well

The recent gusher well in Rice County has caused an intensive geological study to be made of the surrounding territory northwest of Lyons. Following the drilling of well that has flowed over 850 bbls. in 24 hours from sand at 3,269-71 feet, by the Shell Petroleum Corp., Tatlock and others in Section 33-18-9w, and which might develop a much larger production with deeper drilling, major oil companies are having their geological departments make an intensive geological research of the region. Discovery of a producing area that has all the characteristics of a major producing field 12 miles from the nearest production came without warning. Many express the opinion the test would be a dry hole. Other companies are now seeking information on which to determine the existing geological features.

In the four northwestern townships in Rice County, a dozen or more core drills are being operated by seven major oil companies, gathering subsurface data. Some express the opinion the Silicious lime has a northwest and southeast trend of folding. This arch, at a point in the northwestern part of Rice County, strikes the so-called Ellsworth arch which has a southwest northeast trend resulting in a cross folding feature creating a geological high. The regional high is believed to extend into southwestern Ellsworth County. The cross folding is now believed the reason for the large production found in the Shell Petroleum Corp.'s well. Another test that is being watched by operators is Slick, Pryor & Lockhart's No. 1 in the NW cor., Section 25-17-10w, which had 2,000,000 feet of gas in the top of the Topeka lime at approximately 2,500 feet. The test is also believed to be on the same regional high.

More than 10,000 acres of leases, mostly checkerboard, has been taken during the last week since the well in Section 33-18-9w began flowing. The leasing has been done mostly in the northwestern part of Rice County, northeast Barton County, and southwestern Ellsworth County.

Voshell's Pipe Line Outlet

Work on the new pipe line from the Voshell Pool to the Schurr Pool in Rice County is under way by Prairie Pipe Line Co., meeting the request of operators in that area. The pipe has been ordered and the work of surveying the right of way has started. It will be the first pipe line into the area, which now has five producing wells with a potentional of 7,000 bbls. a day. These five wells have no outlet. The Independent Oil & Gas Co. was running 50 bbls. a day from each well but stopped taking oil about a month ago. Several other wells are now shut down near the top of the producing horizon in the pool.

Shell Petroleum Corp., Hoffner & Lee's No. 1 Sledd Farm Corp. in the eastern part of Rice County found a hole full of water in the Wilcox sand at 3,565-88 feet. The top was found at 3,523 feet.

The wildcat test of Slick, Pryor & Lockhart, Darby Petroleum Co. and others' No. 1 Heiken, NW cor. Section 25-17-10w, Ellsworth County, is landing the 6-inch casing on top of the Oswald lime at 2,864 feet. Some express the opinion the test is higher on structure than the Shell Petroleum Corp. and others' well in Section 33-18-9w.

J. F. McCole has announced a new wildcat location 3 miles north of the Schurr Pool. It is one of the important tests in the Raymond district and will be spudded in a few days. The test is located in the SE cor. SW NE Section 12-20-11w, 12 miles southwest of the big well in Section 33-18-9w.

The recent dry hole drilled by Aladdin Petroleum Corp., No. 1 Bryant, NW cor. NE Section 28-20-10w, a half mile south of the production in the Schurr Pool, may be deepened to test the lower horizons. The Silicious lime was found from 3,319-21 feet with a hole full of water and drilling was suspended. Slick, Pryor & Lockhart, Carter Oil Co. and Continental Oil Co. own the offsets.

Cowley County's New Pool

Three oil tests are near the pay level in the Burden area of Cowley County, where the Shell Petroleum Corp. opened a new pool about two months ago. Slick, Pryor & Lockhart and T. C. Johnson's No. 1 Headly, SW cor., Section 20-31-6, had the top of the gas sand at 2,869 feet where it made 1,500,000 feet of gas. The hole was cemented to shut off a cave. The Bartlesville sand was found at 2,869-76 feet and showed oil with the gas. Slick, Pryor & Lockhart and Dan Patton's No. 1 Sitton, NW cor., Section 29-31-6, has landed the 5-inch casing at 2,860 feet and is erecting tankage before drilling deeper. The Bartlesville sand was found at 2,870-2,920 feet and had a showing of oil that rose 2,000 feet in the hole. Lewis Production Co. and T. C. Johnson's No. 1 Sitton, NE cor., Section 30-31-6, is pulling the big pipe at 2,865 feet and will drill into the sand in a few days. The discovery well is making about 100 bbls. a day from the Bartlesville sand.

McKnabb-Bess Oil Co.'s No. 2 C. Johnson, in Section 28-33-3, Cowley County, near the Rainbow Bend Pool, was showing a small amount of oil from the Bartlesville sand after a shot. Same company's No. 1 C. Johnson, which was recently completed, made 40 bbls. of oil and 30 bbls. of water in 12 hours.

Oil in Stafford County

Boucher Oil Co.'s No. 1 Christenson, NW cor., Section 22-22-11w, Stafford County, found a showing of oil at 3,560 feet in an unidentified horizon. Preparations to test the showing were underway. Midwest Exploration Co.'s No. 36 Richardson, SE cor., Section 36-22-12w, Stafford County, has a 15-bbl. showing of oil and 5,000,000 feet of gas from the Oswald lime at 3,256-3,308 feet. Some express the opinion the well is on the same folding as the Schurr Pool in Rice County, which is located on the Ellsworth Arch. Drilling operations were suspended until the arrival of the superintendent.

Syndicate Oil & Gas Co., Morgan & Flynn and Deep Rock Oil & Refining Co.'s No. 1 Mohr, C SW, Section 2-18-16w, Rush County wildcat, was drilling in granite wash early in the week at 3,585 feet. The test will be drilled until it reaches the pay sand or the granite. The same operators plan to drill another test in a short time in the area southeast of the 26,000,000-foot discovery gas well on the same farm.

T. K. Simmons and others' No. 3. NE cor. SE SW, Section 19-22-11, northern Greenwood County, had Bartlesville sand at 2,053-2,102 feet. The well filled up 900 feet with oil. It was shot with 200

(Continued on Page 109)

WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless marked otherwise)

Company, farm and location—	Remarks:
BARBER COUNTY	
Barbara Oil Co.'s No. 1 Hamblin, SW NW Sec. 24-33-13w	Fishing 4,487-4,508 ft.; 30,000,000 ft. gas; cleaning out.
Phillips Pet. Co.'s No. 1 Powell, SE cor. SE Sec. 11-32-10w	Drlg. 4,558 ft.
BARTON COUNTY	
Slick and Prairie's No. 1 Rude, SW cor. Sec. 11-16-13w	Drlg. 2,835 ft.
BUTLER COUNTY	
National Ref. Co.'s No. 1 Settergren, NW cor. Sec. 32-26-4	Rig.
McCulloch and Empire's No. 1 Lilley, SW NW NW Sec. 23-23-5	Drlg. 350 ft.
Pioneer Pet. Co.'s No. 1 Crist, NW SE Sec. 33-26-4	Wilcox 2,970-96 ft.; water; abd.
Farrell et al's No. 1 Sutton, NW cor. Sec. 18-28-7	Drlg. 830 ft.
Gypsy Oil Co.'s No. 1 Osborne, NW SE Sec. 22-26-3	Drlg. 2,500 ft.
Joe Liggett's No. 1 Guanther, C SE NE NW Sec. 29-26-7	Drlg. 2,785-93 ft.; swab 65 bbls. oil and 35 bbls. water.
CHAUTAUQUA COUNTY	
Leighty et al's No. 1 Carr, NW SE Sec. 5-33-9	Drlg. 350 ft.
CLARK COUNTY	
Watchorn's No. 2 Morrison, NW NE Sec. 20-32-21w	Drlg. 6,625 ft.
CLAY COUNTY	
Crystal Oil et al's No. 1 Tivier, SW cor. Sec. 19-8-2	Shut down 1,810 ft.
COFFEY COUNTY	
McGregor's No. 1 Wood, NE NW SW Sec. 20-22-15	Drlg. 650 ft.
Roberts et al's No. 1 Hay, SW SE NW Sec. 32-22-15	Fishing 1,100 ft.
COWLEY COUNTY	
Tom Fine's No. 1 Boyd, NW NE Sec. 32-32-4	Shut down 2,650 ft.
DICKINSON COUNTY	
Severs et al's No. 1 Lavengood, NE SW Sec. 13-13-2	Shut down 2,205 ft.
Kruger et al's No. 1 Diche, C NW NE NE Sec. 17-13-4	Shut down 2,935-43 ft.; water.
E. N. Morgan's No. 1 Whithair, NW SE Sec. 9-12-1	Drlg. 3,103 ft.
DOUGLAS COUNTY	
Steinbuckle's No. 1 Unknown, SW NE NW Sec. 34-14-21	Shut down 1,100 ft.
Jenkins & Scott's No. 1 Haden, SE NW Sec. 10-12-17	Shut down 1,800 ft.
ELLIS COUNTY	
Central Commercial Oil Co.'s No. 1 Helms, SE cor. NE Sec. 2-12-20w	Drlg. 3,353 ft.
Byrene et al's No. 1 Fisher, NW SE Sec. 4-11-20w	Shut down 1,000 ft.
Rush Oil Co.'s No. 1 Gatewood, NW cor. NW Sec. 4-15-20w	Shut down 3,750 ft.

(Continued on Page 173)

LIFE DEMANDS IT

» » AND YOUR INVESTMENTS DESERVE

PROTECTION· ·

» » DOES YOUR TUBING HAVE A GUIBERSON CATCHER ATTACHED?

Danger threatens - - - on the sea, for instance - - - and you grab a life belt with no delay, slave to an instinct that orders, "Do it or die!"

By comparison, investments seem mute and helpless things in time of danger, don't you think so? When you lose money or equipment, you know nothing about it until you've lost it. That is why it requires the decision on your part to protect those things.

A string of tubing suspended in an open hole may drop at any moment, corkscrew into worthless junk, cause a shutdown and perhaps ruin your well. Positive protection from this disaster is the Guiberson Tubing Catcher, which catches a falling string of tubing within three inches. Dove-tail tracks guide the slips instantly and accurately to the casing walls. The strong spring operates with or without fluid in the hole. The heavy striker weight overcomes the retarding action of mud or paraffin. You should feel greatly concerned and decidedly in danger until you have a Guiberson Catcher in every well.

Fully patented

"Better Be Safe Than Sorry"
The GUIBERSON CORPORATION
Box 1106, Dallas, Texas
California Branch: 1506 Santa Fe Ave., Los Angeles
621 Kennedy Bldg., Tulsa — 321 S. Osage St., Ponca City — 506 Trust Bldg., Newark, O.

GUIBERSON

BETTER BE SAFE THAN SORRY

Failures Predominated in Louisiana

Small Producers Break Monotony of Long List of Dry Holes and Abandoned Tests. Several Operations in Mississippi

By D. H. Bancroft
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Aug. 25.—After the interesting events of the preceding two or three weeks the past week in this division was tame. Two small producers stand out from among a long list of salt water tests, dry holes and abandoned locations. A rumor that Lenz and others' Miller County, Arkansas, wildcat pumped 400 bbls. of oil lacked confirmation.

Magnolia Petroleum Co.'s No. 3 Matlock in Section 25-23-12, Carterville district of Bossier Parish, pumped 20 bbls. from 3,149 feet. H. I. Morgan's No. 2 Kendrick, a semiwildcat in Section 22-19-11 of the Bellevue district, topped gas sand at 1,792 feet and on a drill stem test from 1,760-1,800 feet showed for 10,000,000 feet of gas and cemented 6⅝-inch at 1,754 feet. Magnolia Petroleum Co.'s No. 2 Roberson in Section 26-23-12, Carterville, cemented back from 3,184 feet, swabbed 5 or 10 bbls. of oil and about 200 bbls. of salt water from the original pay at 2,950 feet.

In Bienville Parish, Triangle Drilling Co. and Ruston Drilling Co. are still busy with preparations for finishing Nichols and others' No. 1 McDermott in Sections 28-18-6 which had 10 feet of 35 gravity oil at the bottom of a 2,358-foot hole on a drill stem test that filled 1 fourble with mud. They have acquired a half interest in the test. Arkansas-Louisiana Pipe Line Co. got the first failure in the recent redevelopment of the Lake Bisteneau gas field with No. 1 Graves in Section 22-16-10 which showed 17 fourbles of salt water with a slight show of oil at 2,620 feet. This oil show, slight as it was, was the first that area has developed, consequently the water will not be as great a discouragement as it otherwise might have.

Calatex Oil & Gas Co.'s No. 2 Taylor-Trosper in Section 8-16-16, Greenwood gas district of Caddo Parish, was abandoned at 2,970 feet on account of water, and the Falcon Oil Co. abandoned its Dixie district wildcat, No. 1 Oden, in Section 19-19-14, as a dry hole at 2,475 feet as a second completion, the well having been dry at 2,409 feet when abandoned by Pharis and others. Shreveport Oil Corp.'s No. 6 Hicks and others, in Section 32-21-15, Pine Island district, pumped 75 bbls. from 8 feet of sand, total depth 2,119 feet.

May Drill Deep Test in Homer

There are rumors of a deep test to be drilled in Homer by a community of big company interests but nothing tangible has yet developed though with Triangle Drilling Co.'s success in Sugar Creek, Norton's in Caddo and the other deep production in Cotton Valley it wouldn't be a surprise if such a proposition develops in the near future. Leue Oil Co. abandoned No. 1 Taylor, Section 16-22-6, Claiborne Parish, as a dry hole at 3,004 feet. Triangle Drilling Co. is in lime and pyrites at 3,674 feet on No. 1 Hodges and others, in Section 6-19-5, another Trinity test in Sugar Creek. National Oil & Gas Co. had a show of gas with salt water on drill stem test of No. 1 Kirkland, Section 35-9-1e, Catahoula Parish, at 3,079 feet which bailed dry and is going deeper. Louisiana Gas & Fuel Co. is down around 200 feet on the first test of its big Catahoula block, No. 1-A Tensas Delta, in Section 23-6-5.

Burnham and others, drilling No. 1 Hood in Section 3-11-14, DeSoto Parish, 5 miles southeast of Mansfield, are arranging to set a string of 6⅝-inch at 2,330 feet to test a show of oil in 4 feet of sand at 2,356 feet. Odell & Lawton's No. 1 Tidwell-Tull, a wildcat in Section 11-13-14, Holly district of DeSoto, is going deeper after a drill stem test at 2,954 feet was dry. Their No. 1 Harris in the same section was finished several weeks ago as a 20,000,000-foot gas well at 3,150 feet. Pelham & Bundy's No. 1 Rhodes, Section 32-13-14, near Grand Cane, tested a small show of oil in 17 feet of broken lime, total depth 2,892 feet, and is setting 6⅝-inch at 2,800 feet.

There was considerable disappointment in the failure of Arkansas Fuel Oil Co.'s No. 1 Lewis & Co., Section 26-20-4, Lincoln Parish, 10 miles northeast of Sugar Creek gas production, when the hole filled up 1,000 feet with salt water from 4,292 feet as a drill stem test in porous lime at 4,234-74 feet had filled eight joints with fresh water and a show of oil and gas and 6⅝-inch was cemented at 4,227 feet.

Production

NORTH LOUISIANA

Caddo, light	9,375
Caddo, heavy	2,565
Homer	3,510
Haynesville	4,760
DeSoto-Red River	3,040
Elm Grove	465
Bellevue	640
Cotton Valley	1,975
Urania	5,270
Pleasant Hill	550
Sarepta-Carterville	3,565
Zwolle	4,585
Holly	1,190
Total	41,490
Last week	41,065
Increase	425

ARKANSAS

El Dorado	4,200
Smackover, light	5,110
Smackover, heavy	37,340
Stephens	970
Nevada County	1,000
Lisbon	960
Champagnolle	4,320
Bradley	65
Mount Holly	90
Urbana	1,000
Total	55,055
Last week	55,445
Decrease	390
Both states	96,545
Last week	96,510
Increase	35

Monroe Gas Field

One dry hole and an abandoned location in Ouachita Parish summed up the Monroe gas field's activities during the week. United Oil & Natural Gas Products Co. of Louisiana abandoned derrick for No. 2 Cole in Section 26-20-4 and Pipe & Mack's No. 1 Union Gas Products Co., a second sand test in Section 7-18-5, was abandoned as a dry hole at 2,500 feet after testing water at 2,384 feet. Three producers were completed in the Richland gas field. Hope Production Co.'s No. 1 A. H. Brown, Section 22-16-6, making 43,221,000 feet at 540 pounds from 2,440 feet; Northern Louisiana Natural Gas Co.'s No. 2 L. R. Hemler, Section 23-16-6, making 37,011,000 feet at 570 pounds from 2,450 feet, and Southern Carbon Co.'s No. 1-C T. R. Sartor, Section 29-16-6, making 40,788,000 feet from the same total depth.

Four semiwildcats in the northwest corner of the field, carried on the reports but inactive for the past year, were dropped, Austin & McDonald's No. 2 Millsaps, Section 17-17-6, salt water at 2,697 feet; No. 3 Millsaps, Section 16-17-6, salt water at 2,477 feet; No. 4 Millsaps, Section 16-17-6, location, and No. 5 Millsaps, Section 8-17-6, derrick. Palmer Corp. has made location for a wildcat in Section 12-16-5 on the west edge of the field, No. 11 Rhymes-England Planting Co., 2,033 feet west and 660 feet south, NE cor. NE.

Loring Oil Co.'s No. 1 Peavy-Wilson in Section 21-6-13, about 8 miles south of Blue Lake production and half way between it and Zwolle, was another disappointing deep test in the Zwolle district, twisting off about 1,300 feet of drill stem and abandoned as junked, total depth 4,792 feet. It had been scheduled for 6,000 feet "unless" and winds up the deep tests for that part of the country unless some of the wells now drilling should go on past the known horizons in the event they prove dry there. McDaniels & Lieber's No. 1 Batson in Section 16-8-12, 1½ miles northwest of production in the recent north extension of Zwolle was abandoned at 2,526 feet when it tested dry after a show of oil, but location was made immediately for No. 2 on the same lease which is down 700 feet. Pelican Natural Gas Co. tested dry at 2,337 feet on No. 3 Sabine Lumber Co., a wildcat in Section 6-7-11, south of production, and is bailing for another test at 2,408 feet. No. 4 Louisiana Long Leaf Lumber Co. is a location in the NW cor. NW SW, Section 4-7-11, a quarter mile northwest of their big producer of a week ago which confirmed production 4 miles east of Zwolle proper. Six new jobs in the north extension of Zwolle will keep that area busy for the next month or six weeks. In the Pleasant Hill district of Sabine, J. M. Bridges, trustee's No. 1 Cook Land Co., in Section 34-10-12, gauged 16,000,000 feet of gas at 1,200 pounds from 3 feet of sand, total depth 3,191 feet.

Litigation in which an injunction restraining drilling operations was issued was responsible for four locations being dropped from the Webster Parish.

(Continued on Page 110)

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

NORTH LOUISIANA

AVOYELLES PARISH

Company, farm and location—	Remarks—
R. E. Tippett's No. 1 Chateline, NE NE, Sec. 34-1n-3e.	Cored S.W. sand 3,140-47 ft; drlg. S.W. sand 3,400 ft; S.D. 3,410 ft.

BIENVILLE PARISH

W. A. Nichols et al's No. 1 McDermott, 660 ft. S, 660 ft. W, NE cor. NE NE, Sec. 28-18-6	D.S. test 2,281-2,358 ft; 1 fourbie mud; 10 ft. oil; S.D. for csg.
S. P. Borden's No. 1 Thomas, 330 ft. S, 330 ft. E, NW cor., Sec. 27-16-9	Began drlg. Aug. 12; cmtd. 10-in. 300 ft; drlg. 400 ft.

BOSSIER PARISH

Andrews & Daveline's No. 1 Nattin, 100 ft. N, 250 ft. W, C, Sec. 15-22-14	Claim 6-ft. saturated sand (oil) 1,476-82 ft; D.S. test 1,485 ft.
Autrey Oil Co.'s No. 1 Johnson, 1,120 ft. N, 200 ft. E, SW cor. NW, Sec. 34-19-11	Began drlg. July 25; S.D. for fuel 60 ft.
Autrey Oil Co.'s No. 1 McDade, 200 ft. S, 200 ft. E, C, Sec. 28-19-11	Drlg. 1,460 ft.
H. I. Morgan's No. 2 Kendrick, 1,120 ft. N, 1,520 ft. E, SW cor., Sec. 22-19-11	Began drlg. Aug. 4; D.S. test 1,760-1,800 ft; 10,000,000 ft. gas; cmtd. 6⅝-in. 1,754 ft; T.D. 1,800 ft.
Triangle Drlg. Co.'s No. 1 Bollinger, C SE SE, Sec. 36-23-13	Drlg. 2,230 ft.

CADDO PARISH

L. B. Mawk's No. 1 Swann, 440 ft. N, 200 ft. E, SW cor., Sec. 23-21-14	S.D. for fuel; T.D. 700 ft.

CATAHOULA PARISH

Nick Barbee et al's No. 1 L. McGraw, 150 ft. N, 150 ft. W, SE cor. SW NW, Sec. 30-10-9	Drlg. 2,500 ft.
La. G. & F. Co.'s No. 1 Tensas Delta Land Co., 660 ft. N, 1,318 ft. E, SW cor., Sec. 23-6-5	Began drlg. Aug. 15; drlg. 172 ft.

(Continued on Page 99)

LOUISIANA-ARKANSAS PROVEN AREAS

NORTH LOUISIANA

BOSSIER PARISH—CARTERVILLE

Company, farm and location—	Remarks—
Del.-La. Dev. Co.'s No. 6 Bollinger, 330 ft. S, 220 ft. W, NW cor., Lot 17, in Lot 16, Sec. 31-23-11	Full oil; W.O.S.R; 15 ft. broken sand; T.D. 3,217 ft.
Greenwood Prod. Co.'s No. 2 Bollinger, 990 ft. W, 330 ft. S, NE cor. NE SE, Sec. 36-23-12	Cmtd. 6⅝-in. 3,138 ft; 5 ft. sand; W.O.S.R. 3,173 ft.
O. L. Hickman's No. 4 Bain, 330 ft. N, 330 ft. E, SW cor. NW, Sec. 31-23-11	Rig up.
Magnolia Pet. Co.'s No. 2 Matlock, 330 ft. S and W, NE cor. SE SW, Sec. 25-23-12	W.O.S.R. 3,188 ft.
Magnolia Pet. Co.'s No. 2 Roberson, 330 ft. S, 330 ft. E, NW cor. SW NE, Sec. 26-23-12	Shot formation with 20 qts. 2,942-50 ft; swbng. 5 bbls. oil and 200 bbls. S.W. 2,950 ft; T.D. 3,184 ft.
Palmer Corp.'s No. 2 Roberson, 330 ft. N, 330 ft. E, SW cor. NW NE, Sec. 26-23-12	Derrick.
The Texas Co.'s No. 1 Pine Woods Lbr. Co., 1,650 ft. S, 300 ft. E, NW cor., Sec. 25-23-12	6-in. 2,650 ft; T.D. 2,663 ft.
The Texas Co.'s No. 2 Hy Rose, 965 ft. E, 425 ft. N, C, Sec. 31-23-11	O.W.D.D; began drlg. July 22; drlg. shale 3,147 ft; old T.D. 3,075 ft; cmtd. 4½-in. 3,148 ft; T.D. 3,174 ft.
The Texas Co.'s No. 14 Wilkinson, 990 ft. N, 990 ft. W, SE cor. SE NW, Sec. 36-23-12	Derrick.
The Texas Co.'s No. 15 Wilkinson, 990 ft. S, 330 ft. W, NE cor., Sec. 36-23-12	6-in. 3,135 ft; sand 3,142-60 ft; W.O.S.R; T.D. 3,176 ft.
Tippett Drlg. Co.'s No. 3 Holmes, 330 ft. N, 330 ft. E, SW cor. NE NW, Sec. 36-23-12	300 ft. oil in hole; waiting on power; T.D. 3,180 ft.
Woodley et al's No. 1 Roberson, 330 ft. N, 330 ft. W, SE cor. SW NE, Sec. 22-23-12	Surface csg. collapsed; W.O. T.D 1,500 ft.

(Continued on Page 121)

Have New Field in Southwest Texas

Second Oil Well Completed in Saxet Gas Pool, West of Corpus Christi, Brings Comparisons With Refugio Field Producers

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Aug. 25.—Southwest Texas has a new oil field.

Saxet Oil Co.'s No. 6 Dunn in the Saxet gas pool south of Nueces Bay and a little west of Corpus Christi came in last week from sand at 4,290-4,304 feet making about 250 bbls. of oil and 1,000 bbls. of salt water a day. It was not entirely an unexpected occurrence. The same company drilled No. 1 Donigan located about three-quarters of a mile southwest of No. 6 Dunn and at 4,091 feet completed it as a 10-bbl. oil well making about 1,500,000 feet of gas. That happened just a month ago. It is part of a program that calls for several deep tests in that part of the country that must get production or else drill to 3,500 feet. No. 6 Dunn is the second attempt. Several months ago F. P. Zoch completed a gas well at 2,408 feet, three-quarters of a mile south of No. 1 Donigan.

That part of the country which is only about 5 miles west of Corpus Christi, is due for close watching from this on, and in fact has been closely watched for some time past. Delay in drilling deep for oil was due partly to leases covering only gas. This has been straightened out and the new contract calls for several deep tests on the acreage held by the Saxet Oil Co.

No. 6 Dunn later settled to about 120 bbls. of oil and about 1,000 bbls. of salt water. Operators are comparing this field and this well with the wells in the Refugio Field. Gravity and quality of the oil is about the same and the well acts about as the first wells in the Refugio Field, including the amount of water it is making. They believe they can control the water situation.

Houston Oil Co. has made two locations offsetting Saxet's No. 6 Dunn and the Saxet Oil Co. is moving the tools from No. 6 Dunn to the location for No. 2 Donigan which is 2,100 feet south of No. 1 Donigan. Also the Houston Oil Co. is rigging up on No. 1 Ran Morgan which is an offset to Thompson's No. 2 Lawrence. Thompson's No. 1 Lawrence blew in unexpectedly one night when the crew was away and the whole proposition was lost. It cratered and derrick and everything fell in. Depth was around 1,700 feet. No. 2 is about 800 feet northeast of No. 1 and No. 1 Lawrence is just 1 mile west of No. 1 Donigan. No. 2 Lawrence has set casing at 1,659 feet and it is estimated at 20,000,000 feet of gas.

Independent Oil & Gas Co. is down below 3,500 feet and coring sand in its No. 1 Baldwin, 2½ miles southeast of Saxet's No. 6 Dunn.

Laredo District

Six oil wells completed in the Escobas-Muckelroy Pool in Zapata County added 405 bbls. initial production and one well in the Killam-Cuellar Pool added 280 bbls. initial production. These constituted the week's work of producers completed in that district.

In the west edge of the Schoolfield-O'Byrne Pool in Duval County, Magnolia abandoned dry its No. 1 Lundell in Survey 60 at 5,858 feet. This is the second deep test by that company in that field. The other on the north edge of the field went to about the same depth and was a failure so far as production is concerned.

Another abandoned wildcat of importance is T. W. Callahan's No. 1 Luby several miles north and a little east of the Driscoll Pool and abandoned at 4,024 feet.

Still another important wildcat abandonment is Sal Oil & Gas Co.'s No. 2 Welder-Wood in the north central part of Duval County on Survey 215 now standing at 2,500 feet. It is north and a little east of the Schoolfield-O'Byrne Pool and in a territory where a half dozen wildcat tests have seemed to prove a structure but got no production yet.

Brooks Wildcat

Humble Oil & Refining Co.'s No. 2 Singer, in which the Shell Petroleum Corp. is also interested, has set casing to test a sand found at 4,769-75 feet. Barite had to be used to weight down the mud before setting casing. This test is a little way from No. 1 which was lost at 4,560 feet after it had an encouraging showing. It will probably be 10 days before No. 2 Singer is drilled in and tested.

Starr County

The Texas Company is starting No. 5-A V. C. de Guerra in Starr County in Share 305-C of Porcion 67. It is now rigging up. The company has one oil well completed last year in the center of a big block and many miles from pipe line or railroad. Subsequent drilling has not added production but is feeling out the structure. No. 5-A Guerra is approximately 1 mile south of No. 4-A Guerra which was the discovery oil well at 3,590 feet and the first oil well completed in Starr County, and 50 miles south of Mirando City.

Balcones Fault Area

In the Balcones fault country east of San Antonio, the event of the week was Cranfill & Reynolds' No. 1 McIntyre, 7 miles south of Seguin, which got the chalk at 2,126 feet which was rather normal except that it got only 50 to 60 feet of chalk where usually there is about 200 or more feet. This threw it high on the other formations and at about 2,170 feet it went into the Eagleford. Saturday it was at 2,308 feet and in the Georgetown and seemed to have about 140 feet of fault displacement. It was conceded to have a chance to make a well in the Edwards if there is any oil in the Edwards at that point.

This well is in a territory south of Seguin in Guadalupe that has attracted wildcatters for years and there have been a number of tests put down in a stretch of territory 10 miles long.

Williamson County

There were nine completions of producers in the Chapman Pool in Williamson County this week and one, Ed Means' No. 1 Abbott, extended the pool about three-quarters of a mile southeast. It was reported at around 2,000 bbls. The completion that attracted particular attention was Trapshooter Reilly's No. 1 M. V. Lawrence which came in making 200 bbls. an hour. It is one of the best completions of the field but does not extend the field.

Southwest Texas Production

Daily average production during the past week follows:

Branyon	23
Bruner	16,366
Buchanan	*177
Chapman	12,835
Dale	284
Darst Creek	47,267
Kingsville	135
Larremore	30
Luling	9,925
Lytton Springs	782
Manford	310
McMullen	30
Medina	22
Mirando	11,356
Pettus	6,314
Saxet	143
Somerset	1,557
Yoast	370
Total Southwest Texas	107,926
Week ending August 16	105,002
Increase	2,924

Live Oak Test

Houston Oil Co., which all but lost its No. 1 Ross Boothe, three-quarters of a mile north of the Cartwright gas field in southeastern Live Oak County and 3,000 feet deeper than Cartwright production, has shot off the bit at about 2,400 feet and is sidetracking. The hole was carried to 5,257 feet and tested on drill stem as though it would make an oil well. Gas production is at about 2,150 feet in the field. Considerable of the hole is lost and it will be some time before it is known how important the new field is going to be.

Purchase Acreage

Houston Oil Co. is reported to have closed a deal for the purchase of 1,280 acres in Zapata County between the Escobas Pool on the west and the Randado Pool on the east paying $100,000 for the lease. It lies north of the Fansler gas well in Survey 285. This gas well was completed some months ago. In this same area recently S.R.C. Oil Co. purchased a half interest in a block of acreage paying $50,000 in cash.

The north end of the Escobas Pool is 5 miles west of the south end of the Randado Pool, the Escobas Pool being in Zapata County and the Randado Pool in Jim Hogg County.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

ATASCOSA COUNTY

Company, farm and location—	Remarks—
Frontier Oil Co.'s No. 2 Boynton, 775 ft. SW of Brown-Fuller gas well	T.D. 800 ft; drlg.
Nute, Walder & Derden's No. 1 J. B. Young, 750 ft. W line, 370 ft. E line of 107-ac. tract in the Wm. Moore Sur.	Location.

BLANCO COUNTY

Anderson & Manning's No. 1 Speer, 600 ft. to S line, 800 ft. to W line, John W. Speer Sur.	Moving in rig.
Ben H. Ashe Pet. Corp.'s No. 1 Glasscock, moving in to drill on leases out of the Rodson block north of Blanco City	Location.
Hardy Sitton's No. 1 McMillan	Drlg. wtr. well.
Liles-Adams et al's No. 1 Stanford, 150 ft. to S line, 1,420 ft. to E line of James Stanford's No. 155	T. D. 385 ft.; set casing; W.O.C.
McCreary et al's No. 1 Schenling, 900 ft. to SE line, 600 ft. to SE line of J. A. Rouse No. 118 Sur., 4 miles SW from Blanco City	Drilling.
J. R. Meek's No. 1 Walker, 360 rds. from W line, 482 rds. from S line of 375-ac. tract in Survey No. 23	T.D. 420 ft.; set 8⅛-in. csg.
C. Rosenfield's No. 1 Hohenberger, 800 ft. to W line, 1,250 ft. to N line, Sur. No. 94	Moving in machinery.

BASTROP COUNTY

Judge Batts et al's No. 1 Alexander, 1,670 ft. N of S line, 528 ft. E of W line, Blk. 3, in the W. M. Eastland Sur., 3½ miles NE from Red Rock	T. D. 2,663 ft.; abd.; dry.
Pacific Oil & Gas Co.'s No. 1 J. Spooner, 300 ft. from N line, 400 ft. from W line in the L. Lavenuz Sur., 4½ miles E from Cedar Creek	T.D. 2,350 ft; S.D. light show of oil.
Pacific Oil & Gas Co.'s No. 1 J. M. Litton, 150 ft. N and W lines of tract	Derrick.
Majestic Pet. Co.'s No. 1 J. M. Breeding, 160 ft. from N line, 1,020 ft. from W line of 200-ac. tract, 940 veras from W line, 1,225 varas from S line of M. Andrews Sur., 13 miles W from Smithville	T.D. 500 ft; S.D. in shale.
Champion and others' No. 1 Smith, 2,541 ft. to NW line, 663 ft. to SW line of tract, E. Standifer Sur.	Moving in machinery.

(Continued on Page 122)

COMPLETIONS

Pettus Area—Bee County

Getty Oil Co.'s No. 1 Block 40 Townsite, center of Block 40 of Pettus townsite, 20,000,000 feet of gas, total depth 3,867 feet. Glasscock Brothers' No. 1 Block 24 Townsite, center of Block 24, Pettus townsite, total depth 3,868 feet, 10,000,000 feet of gas. Houston Oil Co.'s No. 1 Block 33 Townsite, center of Block 33, Pettus townsite, total depth 3,914 feet, 150 bbls. in six hours.

Lassiter Pool—Brooks County

Ed East's No. 1 B. Garcia, 1,700 feet west line, 750 feet south line of north 100-acre tract, Share A-1, Las Mestena y Gonzalene tract, total depth 1,109 feet, tested 8,000,000 feet of gas, 450 pounds pressure.

Darst Creek—Guadalupe County

Humble Oil & Refining Co.'s No. 8 D. D. Baker, 980 feet west of SE cor. of 60-acre Baker tract and 150 feet to south line, total depth 2,555 feet, swabbing 600 bbls. Same company's No. 3-A Dowdy, 180 feet to northeast line, 60 feet to south of county road on 52-acre lease, total depth 2,560 feet, swabbing 600 bbls. Magnolia Petroleum Co.'s No. 4 L. V. Echols, 400 feet west of No. 3 Echols, 150 feet to the lease line, total depth 2,276 feet, estimated 50 bbls.

Saxet Field—Nueces County

Saxet Gas Co.'s No. 6 John Dunn, 600 feet south of No. 5 Dunn, 4 miles west from Corpus Christi, total depth 4,304 feet, gauged 250 bbls. oil and 1,000 bbls. salt water.

Chapman Pool—Williamson County

E. R. Ertel and others' No. 6 J. C. Abbott, 400 bbls. G. Stratton's No. 2 J. C. Abbott, 300 feet west of No. 3, S. Miller Survey, total depth 1,552 feet, 900 bbls. Trapshooter Reilly's No. 1 M. V. Lawrence, 130 feet to north line, 166 feet to west line of 2½-acre farm, S. Miller Survey, total depth 1,910 feet, 200 bbls. per hour initial.

ABANDONED TESTS

Pettus Area—Bee County

Grayburg Oil Co.'s No. 1 S. D. Copeland, 300 feet to east and south line of NE of 320-acre tract, William Sanford Survey, total depth 3,920 feet, abandoned dry. Same company's (Fisher & Wiggins) No. 1-A J. A. Kimball, center of 189-acre tract, Stephen Winship Survey, total depth 3,864 feet, hole lost. Same company's No. 1-B Kimball, 150 feet each way out of SW cor. of 80-acre tract or 2,700 feet to east line, 2,100 feet to south line of Stephen Winship Survey, total depth 4,500 feet, abandoned dry. Union Producing Co.'s No. 10 Ray, 150 feet north and 150 feet east of the SW cor. of Block 240, G. Neil Survey, total depth 4,046 feet, abandoned, salt water.

Buchanan Pool—Caldwell County

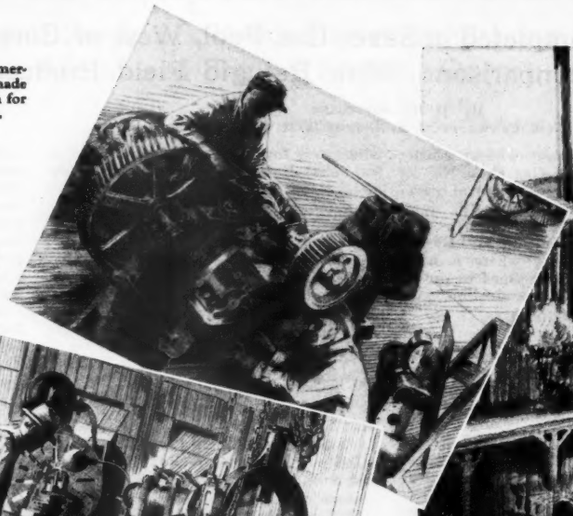
Buchanan and Danciger's No. 2 L. K. Brown, 150 feet to northwest line, 450 feet to southwest line of tract, C. M. Cannon Survey, total depth 2,058 feet, abandoned dry.

Chapman Pool—Williamson County

Fred Beatty's No. 1 J. B. Pumphrey, 1,328 feet to south and east lines of 168-acre tract in the W. Cartwright Sur-

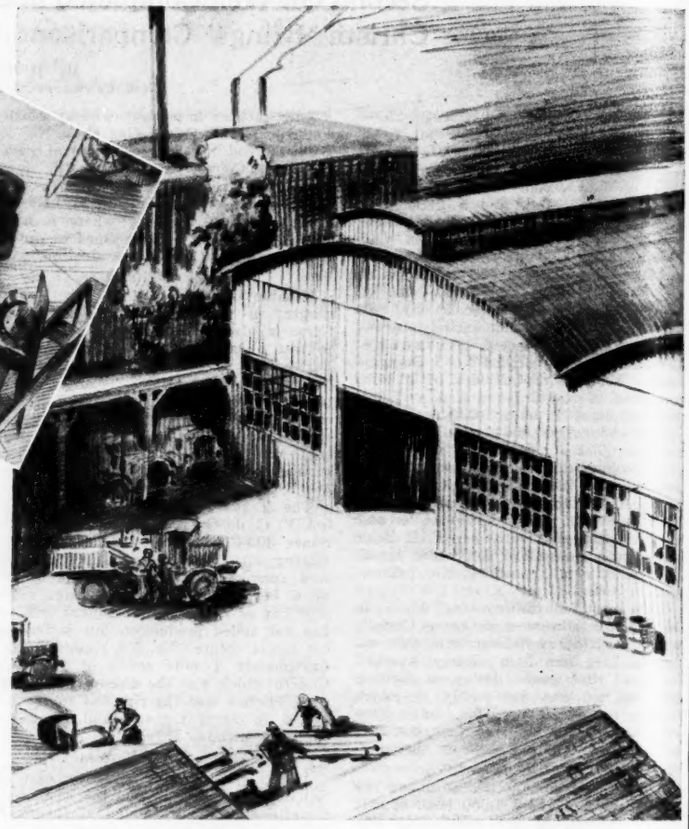
(Continued on Page 129)

A SCIENTIFIC INSTITUTION DEDICATED



The strongest commercial pumps are made stronger to fit them for Halliburton service.

Re-facing a rotary pump for Halliburton cementing outfit.

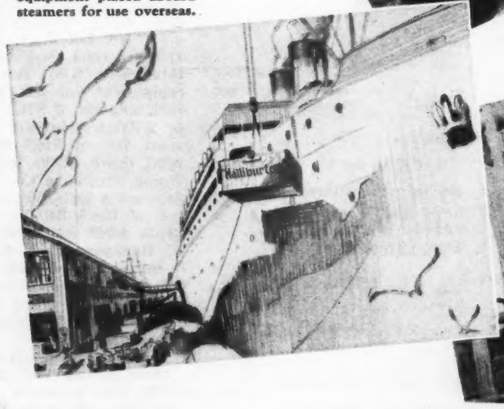


Seasoned field men supervise Halliburton operations.

TO render the highest form of service to the oil industry Halliburton has spared neither time nor effort, nor money. Seasoned engineers have contributed bountifully of their skill. Countless laboratory tests have resulted in improvements of national importance in the conservation of our petroleum resources. Hundreds of thousands of dollars have

No thoroughbred is kept more carefully "in trim" than is Halliburton cementing equipment.

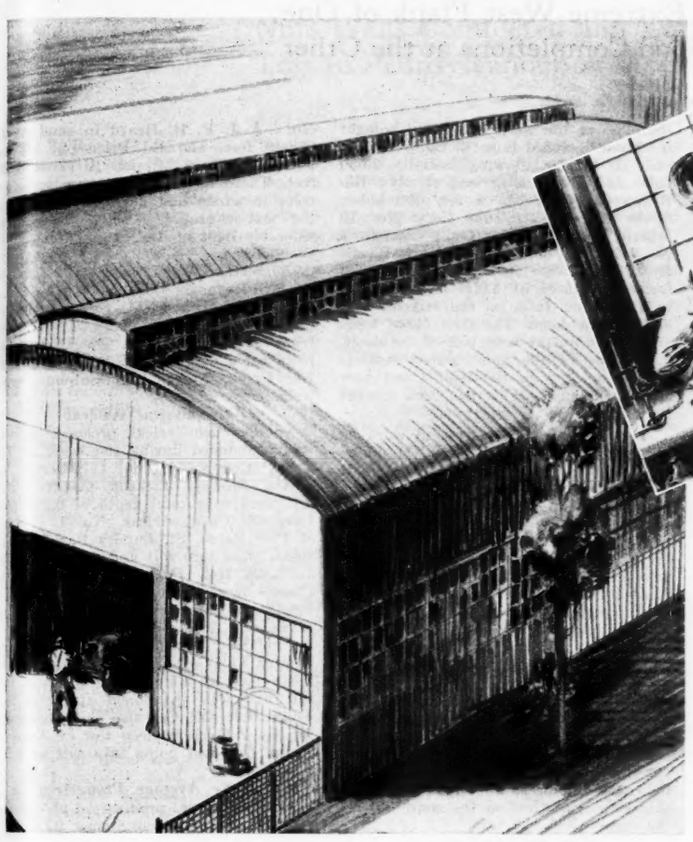
Each year sees an increasing amount of Halliburton equipment placed aboard steamers for use overseas.



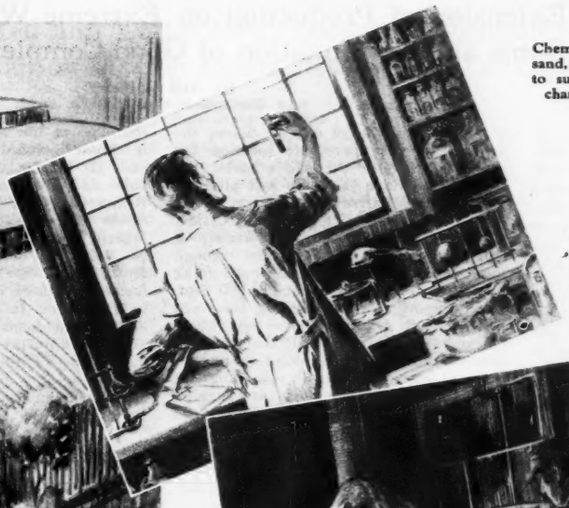
1500 sacks of cement intimately mixed and properly placed in an hour's time.

To provide absolute dependability Halliburton reinforces every part of its cementing apparatus.

TO THE SERVICE OF THE OIL INDUSTRY



Chemical tests of cement, sand, mud fluids, etc., help to substitute science for chance in Halliburton cementing.



Here is another step in giving the Halliburton mixer its amazing ability to stand up under severe service.

been spent in research and development.

The Halliburton Oil Well Cementing Co. is a successful institution because it has never been content "to let well enough alone." Having assumed the position of leadership, it has never for a moment failed to recognize the obligations that leadership entails.

An old-timer contributes his share to the dependability of Halliburton equipment.

Design and construction of the plug may seem but a detail to the outsider, but it is a matter of genuine importance to Halliburton.

Chemists, mechanics, blacksmiths, welders—all take part in and contribute to Halliburton service.

HALLIBURTON

OIL WELL CEMENTING CO.

Duncan, Oklahoma

Halliburton Oil Well Cementing Co.
Dept. OG, Duncan, Oklahoma.

Without cost or obligation, please place my name on the list to receive THE CEMENTER regularly as issued.

Name _____

Company _____

Address _____

Barbers Hill and Humble Lead Gulf

Extension of Production on Extreme West Flank of One Dome and Continuation of Good Completions at the Other

By Nell Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Aug. 25.—The most important field developments on the Gulf Coast the past week were centered around two of its oldest domes, Barbers Hill and Humble, which despite the opening of many new areas within the past two years, continue to lead the coastal fields both in production and drilling activity, next to Refugio. At the former, an extension of production to the extreme west flank of the dome was made late in the week and at Humble there was a continuation of the series of good wells being completed in the active development going on along the west and southwest flanks of the dome.

The extension at Barbers Hill was made by Sun Oil Co.'s No. 1 O. K. Winfree, W. D. Smith Survey, which came in Saturday flowing an estimated 1,000 bbls. of pipe line oil from a sandy shale at a total depth of 5,328 feet. A total of five and one-half joints of screen was set in the hole. The well, being approximately 4,000 feet to the northward from production of the southwest flank and 2,500 feet southward from that of the pool on the extreme northwest side, is virtually a rank wildcat.

Completion of this well, which marks another important link in proving up a continuous circle of producing wells around the flanks of the dome, probably will be followed immediately by an attempt of operators to close the gaps between it and the pools on the southwest and on the northwest. The well necessitates two immediate offsets, one by Sinclair Oil & Gas Co. to the west and the other by Humphreys Corp. to the north. The Sun well is in the northwest corner of the Winfree tract. The nearest drilling well at present is The Texas Company's No. 1 Winfree, approximately 2,000 feet to the south and about midway between the new wildcat producer and Yount Lee Oil Co.'s two Zadie Fisher wells in the southwest.

Fourth New Flank Sand Pool

The Winfree well is the fourth new flank sand pool to be opened at Barbers Hill this year, proving every side of the dome productive and leaving only comparatively short gaps between the various productive areas to be filled in. The others included the new pool on the northwest flank discovered by Humphreys Corp.'s No. 8-A Kirby; that on the southwest, discovered by Yount Lee Oil Co.'s No. 1 Zadie Fisher, and that on the north brought in by Humphreys Corp.'s No. 1 Morgan. An unbroken line of production already has been proved from the northeast flank down the east side and around the south and to the southwest flank. The gaps remaining lie between Humphreys' Morgan well on the north and the production on the northeast and that on the northwest. Between the Morgan well and the pool on the northwest flank, Mills Bennett Production Co.'s No. 3 E. W. Barbers is drilling in an effort to fill in that gap. The latter well, which at latest report was drilling sandy shale at 3,911 feet, is being watched closely by operators and gives promise of proving something of importance. It has been running higher than usual in Barbers Hill wells and below 3,500 feet encountered a sand with a fair oil showing. The latter, however, was in the Miocene, which never has been worth much at that dome and so was passed up. Of particular interest in this well is the fact that it drilled through over 1,600 feet of salt, the greatest amount of salt ever drilled through. Drilling through an overhanging ledge of salt places the well in a more favorable location for oil in respect to the sands under the ledge which flank the main salt plug.

The new Winfree well brought in by Sun Oil Co. is in a similar location, producing from a sand underneath a ledge of cap rock. This drilled through approximately 600 feet of cap rock, going back into formation around 4,800 feet. Until recently wells drilling into cap rock or salt generally have been abandoned but at Barbers Hill the dome on several sides has been found to have a ledge of cap rock or salt extending out from the main plug and overhanging formation. This fact has resulted in much acreage around the edges of the cap rock area, previously condemned when tests hit the cap, being restored to value.

Six Other Producers

In addition to the Winfree well, Barbers Hill figured very conspicuously in the completion column with the bringing in of six other producers on various proved sides of the dome. On the south side, Sun Oil Co.'s No. 6, Chambers County proved the best of the lot, coming in estimated good for 1,000 bbls. and with the producing horizon at 4,124 feet being considerably higher than in other producers of that part of the field. On the southeast side, Sun Oil Co.'s No. 8 Wilburn fee, Yount Lee Oil Co.'s No. 8 Woodward, and Sinclair Oil & Gas Co.'s No. 5 McKinley made small wells from the 5,200-foot level. Mills Bennett Production Co.'s No. 10 Barrow on the southwest flank proved a little disappointing, being completed as good for only an estimated 200 bbls. daily with screen set at 4,780 feet.

Three wells, all belonging to Humphreys Corp., drilled into salt at Barbers Hill the past week. These were No. 1-B Barber on the north side, No. 6-A Barber and No. 8-B Kirby on the northwest. These wells, however, have not been abandoned yet and an attempt probably will be made in at least one, No. 1-B Barber, to drill through the salt. Humphrey Corp.'s No. 1 Fitzgerald, also on the north side, drilled into anhydrite cap and at 1,976 feet still was going deeper.

Seven Wells at Humble

At Humble six completions were reported during the week and a seventh at the close of the week was being brought in. These included Sun Oil Co.'s Nos. 10 and 12 Bender, flowing initially 1,550 bbls. and 1,000 bbls., respectively; Rio Bravo Oil Co.'s No. 4 fee, 600 bbls.; South Texas Petroleum Co.'s No. 15 Morris, 400 bbls.; The Texas Company's No. 1 fee, 130 bbls., and Cullen & West's No. 2 Burt,. 500 bbls. The latter was a former producer at 4,956 feet deepened to 4,855 feet. It is on the extreme east side of the dome. The first three wells are located on the west side of the dome, where one of the most active development programs on the Gulf Coast now is going on and which has been marked by a succession of good wells.

As a result of the successful work on the west flank of the dome, Humble's daily production for the second time this year is being pushed up to a leading place among Coastal fields. Daily average production the past week was 21,954 bbls., placing Humble second to Refugio, the largest. During the height of the development of the deep sands on the south flank of the dome production rose to that level, reaching a peak of 21,825 bbls. daily average for the week ending March 8, but with the decline of activity there production dropped off to as low as 13,000 bbls. daily.

The development on the west side of Humble, following the discovery early this year of flank production in Sun Oil Co.'s No. 3 Bender, has resulted in steady extensions down the side of the dome and indications point to a possible linking of this area with that on the south side of the dome.

New Sand at Refugio

Of particular interest at Refugio the past week was the finding of a deep sand in Saxet Oil Co.'s No. 12 Clint Heard on the extreme south side of the old Refugio Field and approximately 2 miles from the nearest deep sand production, which is on the east side of the townsite on the opposite side of the field. This well is in a sand showing oil at a total depth of 6,386 feet with 5 3/16-inch casing cemented at 6,372 feet.

There were no completions of importance at Refugio. Moody-Seagraves Producing Co. brought in its No. 1 Strauch, Block 64, in the eastern tier of townsite lots flowing 160 bbls. daily at 5,629 feet but this is in proved territory. Edwin M. Jones got a 125-bbl. well in his No. 3-A J. F. B. Heard in sand at 3,638-49 feet, and Ed Price put on the pump his No. 1 Mission River at 3,663 feet. There are several interesting deep tests in sands and developments during the next several days should throw considerable light on the extent of the lower horizons.

Completions of the week include Cranfill-Reynolds Co.'s No. 15 Esperson at the Esperson Field, western Liberty County, which is pumping 200 bbls. daily from sand at 3,298 feet. The Texas Company got a 625-bbl. well at Hull, and at Big Creek, Starks and Sulphur small wells were added.

Geophysical Wildcat

Another geophysical prospect wildcat was abandoned during the week in The Texas Company's No. 1 Mitchell, G. Ewing Survey, Jackson County. This test went to a total depth of 6,261 feet. Pure Oil Co.'s wildcat, No. 1 Perkins, at Port Barre, St. Landry Parish, Louisiana, went into salt and was abandoned at 3,824 feet. Port Barre, one of the Coast's newest promising fields, now is inactive as this was the only rig left operating on that dome. Another interesting wildcat, Saxet Oil Co.'s (formerly Houtex Oil Co.'s) No. 1 Davis, on the north side of North Dayton, went into salt and was abandoned at 3,862 feet. Yount Lee Oil Co. also has abandoned its No. 2 Herbert, deep test at Anse La Butte, this test going into salt to 6,219 feet.

Daily Average Production

Daily average production of Coastal fields the week ended August 23 was:

SOUTHEAST TEXAS

Allen	38
Barbers Hill	18,175
Batson	1,116
Big Creek	4,547
Blue Ridge	1,778
Brenham	145
Boling	1,044
Clay Creek	1,462
Damon Mound	680
DeWalt	12,141
Fannett	799
Goose Creek	4,519
Hankamer	2,286
High Island	938
Hull	8,639
Humble	21,954
Jasper County	25
Lost Lake	573
Markham	500
Nash	278
North Dayton	860
Orange	1,932
Orchard	2,534
Pierce Junction	13,212
Port Neches	1,736
Raccoon Bend	12,248
Refugio	29,256
Esperson (Sheeks)	2,675
Saratoga	1,175
Sour Lake	2,149
South Liberty	3,631
Spindletop	17,215
West Columbia	4,209
Total Southeast Texas	174,322
Week ending August 16	170,348
Increase	3,974

SOUTH LOUISIANA

Anse La Butte	33
Bayou Blue	146
Bayou Bouillon	229
Black Bayou	469
Edgerly	413
Jennings	2,084
Hackberry	3,581
Lake Barre	1,204
Lake Pelto	197
Lockport	2,696
Port Barre	3,588
Sorrento	66
Starks	732
Sulphur	2,956
Sweet Lake	1,201
Vinton	6,324
Welsh	125
White Castle	1,202
Total South Louisiana	27,139
Week ending August 16	30,537
Decrease	3,398
Total Gulf Coast	201,461
Week ending August 16	200,885
Increase	576

GULF COAST FIELDS AND WILDCATS

Week Ended August 23

BARBERS HILL—CHAMBERS COUNTY

Mills Bennett Production Co.'s No. 10 Barrow, southwest.	Set 1 joint screen; comp. flowing by heads 250 bbls. daily 4,780 ft.
Mills Bennett Production Co.'s No. 3 E. W. Barber, north	Drlg. sandy shale 3,111 ft.
Mills Bennett Prod. Co.'s No. 1 Henry Fisher, southwest.	Drlg. sand and shale 5,913 ft.
Mills Bennett Prod. Co.'s No. 4 Gulf-Higgins, southwest.	Drlg. lime 4,998 ft.
Mills Bennett Prod. Co.'s No. 2 Means (workover)	Rig up to workover.
Humble Oil & Ref. Co.'s No. 6 fee, west	Drlg. hard lime 5,401 ft.
Humble Oil & Ref. Co.'s No. 7 Meyers fee, west	Standing.
Humphreys Corp.'s No. 1 Fitzgerald, north	Drlg. anhydrite 1,976 ft.
Humphreys Corp.'s No. 1-B Barber, north	Drlg. salt 2,257 ft.
Humphreys Corp.'s No. 9-A Kirby, northwest	Coring sand 4,991 ft.
Humphreys Corp.'s No. 6-A Barber, northwest	Drlg. salt 3,900 ft.
Humphreys Corp.'s No. 8-B Kirby northwest	Drlg. salt 1,782 ft.
Humphreys Corp.'s No. 2-H Kirby (workover)	Trying to set 5 3/16-in. casing 6,617 ft.
McAlbert Oil Co.'s No. 1 Higgins (workover)	Coring sand 5,448 ft.
McAlbert Oil Co.'s No. 7 Woodward	Set 2 joints screen 5,249 ft.
Republic Production Co.'s No. 3 Kirby (workover)	Set 80 ft. screen 5,412 ft.; swabbing.
Rio Bravo Oil Co.'s No. 1 Fisher, southwest	Drlg. sandy shale 5,019 ft.
Sinclair Oil & Gas Co.'s No. 1 Winfree fee, west	Location.
Sinclair Oil & Gas Co.'s No. 2 McKinney fee	Total depth 6,597 ft.; set cement plug 5,367 ft.
Sinclair Oil & Gas Co.'s No. 5 McKinney, fee	Set 129-ft. screen; comp. flowing 250 bbls. 5,244 ft.
Sun Oil Co.'s No. 8 Wilburn fee, southeast	Set 4 joints screen; comp. flowing 500 bbls. oil 5,270 ft.
Sun Oil Co.'s No. 9 Wilburn fee, southeast	Drlg. gumbo 1,422 ft.
Sun Oil Co.'s No. 10 Wilburn fee, southeast	Rig.
Sun Oil Co.'s No. 9 J. Wilburn, southeast	Oil sand and shale 5,113 ft.
Sun Oil Co.'s No. 10 J. Wilburn, southeast	Rig.
Sun Oil Co.'s No. 6 Chambers, south	Set 2 joints screen; comp. flowing 1,000 bbls. 4,124 ft.

(Continued on Page 125)

Hobbs Potential Now 278,000 Barrels

Nine Wells Completed and Eight New Locations Announced. Test to Pennsylvanian on Meeker Dome. Record Well in Osage

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Aug. 25.—Twenty-eight wells in the Hobbs Pool regauged for proration on an open flow basis had a potential production of 167,765 bbls. a day. Ten wells completed since then have raised the total to around 278,000 bbls. A well-known authority predicts that the field will produce 200,000,000 bbls. of oil. Additional pipe line facilities are being constructed by the Texas Pipe Line Co. Eight new locations were made this week and eight wells were completed, the best being the Ohio Oil Co.'s No. 3 State-Northrop for 18,000 bbls., the Amerada Petroleum Corp.'s No. 3 McKinley for 14,080 bbls., and George F. Getty, Inc.'s No. 4 McKinley, for 14,062 bbls. The Midwest Refining Co.'s No. 33 Byers increased and was given a potential of 21,249 bbls., being second largest in the field. The Tidal Oil Co. has a producer in the Eunice district, which extends that pool half a mile, and the Ohio Oil Co. is completing a well in the same area.

The Ohio Oil Co. has contracted for a Pennsylvanian test on the Meeker Dome in Colorado that probably will go to 6,500 feet.

The Midway Dome test in Wyoming has not yet demonstrated its capacity, but will make a good well. Protests have been filed against the construction of the projected oil pipe line from the Big Horn Basin to Montana refineries. The Osage Field had a record completion in the Lambie Oil Co.'s No. 2 Bock which flowed 700 bbls. in 12 hours. Continental Oil Co. is to drill a deep test in the Big Muddy.

NEW MEXICO

Hobbs Area—Lea County

When the prediction was made early last May that the Hobbs Pool in Lea County would have a potential production of 200,000 bbls. a day within four months, there were skeptics swho believed that the estimate was too high. The four months have not quite matured, but the predicition has been more than fulfilled. A regauge of wells made shortly prior to August 1 under the supervision of C. G. Staley, proration umpire, on the open flow basis gave a total potential of 167,765 bbls. per day from 28 wells. Ten wells completed since then bring the potential up to approximately 278,000 bbls. a day. The Tidal Oil Co.'s No. 1 Grimes, which is credited with a potential of 21,496 bbls., came very near losing its position as the biggest producer when the Midwest Refining Co.'s No. 33 Byers was gauged. It made 2,000 bbls. in one hour and was heralded as a 24,000-bbl. well, the premier of the field, but on the basis of the test over three hours it was given a potential of 21,249 bbls., or a very close second to the Tidal well. These two big producers are 2 miles apart and give some idea of the area of the big flush production.

Additional pipe line facilities are being provided for Hobbs through the construction of 20 miles of 8-inch line by the Texas Pipe Line Co. from Jal Station to Hobbs Junction, parallel to its 6-inch line. The Shell Pipe Line Co. has an 8-inch line from Hobbs Field to Hobbs Junction, where it ties in with The Texas Company's line to the south. The latter does not offer sufficient capacity to accommodate all the oil receipts from the Hobbs Field and the Lea Pool. The new line will perform common carrier service for the Shell company from Hobbs Junction to Wink, Tex., where the oil will be returned to that company.

The drilling program is reaching its peak rapidly with the announcement of eight new locations this week. It is not probable that new locations will be as numerous after this month as most of them are within what is considered proven territory and the outpost locations to feel out the limits of the pool are not in sufficient number to prolong the present heavy volume of drilling. This feature of the drilling program is expected to come gradually and later in the year and posssibly into next year. This week's locations were as follows:

Texas Production Co.'s No. 2 McKinley, C NE SE, Section 5-19-38; Prairie Oil & Gas Co.'s No. 2 Grimes, SW NW NW, Section 28-18-38; Shell Petroleum Corp.'s No. 1-B McKinley, 1,320 feet from the west line and 2,310 feet from the south line; Tidal Oil Co.'s No. 3 Grimes, NE cor. SE, Section 29-18-38; Amerada Petroleum Corp.'s No. 4 McKinley, SW cor. NW, Section 30-18-38; Sun Oil Co.'s No. 2 McKinley, C SE NE, Section 5-19-38; Gypsy Oil Co.'s No. 6 Grimes, SE cor. SW, Section 32-18-38, and Continental Oil Co.'s No. 4-A State, NE NW SE, Section 29-18-38.

Completions Reported

Nine completions were reported. Landreth Production Co.'s No. 1 State, SW cor. SE, Section 7-18-38, which limits the pool on the north, was abandoned at a total depth of 4,520 feet. It had sulphur water at 4,502-20 feet, a show of gas with water at 4,447-55 feet and a show of oil at 4,375 feet. The surface elevation is 3,674 feet. Salt was topped at 1,835 feet and bottom at 2,720 feet. Top of the brown lime was at 3,045 feet.

Ohio Oil Co.'s No. 3 State-Northrup, NE cor. SE, Section 32-18-38, was completed at 4,175 feet and made 18,000 bbls. initial. It is a joint well with the Independent Oil Co., the two companies each owning a 50 per cent interest.

Amerada Petroleum Corp.'s No. 3 McKinley, NE cor. NW, Section 30-18-38, was completed at a total depth of 4,170 feet and was credited with a potential of 14,080 bbls.

George F. Getty, Inc.'s No. 4 McKinley, NW cor. NE, Section 30-18-38, an offset on the east to the Amerada well, was drilled to 4,220 feet and was given a potential of 14,062 bbls. a day, the two wells running practically the same.

Humble Oil & Refining Co.'s No. 2-A Bowers, NW cor. SE, Section 30-18-38, half a mile to the south of the two completions just named, gauged 351 bbls. the first hour from pay at 4,030-4,208 feet and is estimated at 8,500 bbls. of oil and 8,000,000 feet of gas. Its elevation is 3,655 feet. It topped the anhydrite at 1,430 feet and the brown lime at 2,780 feet.

Midwest Refining Co.'s No. 3 State, NW NE SW, Section 4-19-38, was drilled to 4,175 feet and was credited with a potential production of 2,138 bbls. It is a little more than one-fourth of a mile to the southwest of the same company's No. 33 Byers, the second largest well in the pool.

Ohio Oil Co.'s No. 2 State-Northrup, C SE SE, Section 32-18-38, joint with the Independent Oil Co., gauged 245 bbls. the first hour open flow at a total depth of 4,175 feet. The pay was at 3,996-4,175 feet. The surface elevation is 3,633 feet and the top of the anhydrite was at 1,442 feet. It is estimated at 5,000 bbls. of oil and 15,000,000 feet of gas per day.

Texas Production Co.'s No. 1-C State, NE cor., Section 25-18-37, was drilled to 4,206 feet and in the production test was rated at 6,389 bbls. per day, with 8,000,000 feet of gas. It was tested through the 3-inch tubing and made 210 bbls. the first hour, 239 bbls. the second, 230 the third, and 150 the fourth. It is one of four offsets, the Texas Pacific's No. 1-G State, the Shell's No. 1 McKinley and Amerada's No. 1 McKinley. The four wells are the most westerly of any producers in the field.

Texas Production Co.'s No. 1 Selman, NW cor. SE, Section 15-19-38, which is close to the southern edge, is bottomed at 4,183 feet and was shot with 180 quarts at 4,100-75 feet. It showed an increased flow of gas and made 85 bbls. in 16 hours. It was credited with a potential of 97 bbls.

Second Largest Well

The Midwest Refining Co.'s No. 33 Byers, SE SW NE, Section 4-19-38, proved to be a surprise. Last week it was reported flowing at the rate of 12,900 bbls. a day on a 30-minute test. When gauged to establish its potential, it made 480 bbls. in 30 minutes, or at the rate of nearly 24,000 bbls. a day. It was credited with a potential of 21,249 bbls., which makes it the second largest in the field. The California Co.'s No. 1 State, NW SE SE, Section 29-18-38, an offset on the south to the Tidal's No. 1 Grimes, the record well for the field, has proven to be somewhat of a disappointment at a total depth of 4,170 feet. It made 86 bbls. of oil the first hour and gas at the rate of 22,000,000 feet a day. It is being deepened in hopes of increasing the flow and is coring at 4,186 feet. Amerada Petroleum Corp.'s No. 1-A State, SW NW NE, Section 32-18-38, was last week reported making 847 bbls. in four hours. This should have read it averaged 847 bbls. an hour for four hours. The official rating is 19,308 bbls. of oil and 21,000,000 feet of gas. The elevation is 3,639 feet and the total depth 4,160 feet. It topped the anhydrite at 1,505 feet and the brown lime at 2,760 feet.

Drilling Operations

Routine operations include the following:

Amerada Petroleum Corp.'s No. 2-A State, NE cor., Section 32-18-38, is drilling at 1,500 feet, and its No. 1-B State, SW SE NW, Section 29-18-38, is drilling at 2,985 feet in anhydrite. It had its first gas at 2,805-08 feet. Same company's No. 2-B State, SE SW NE, Section 29-18-38, cemented the 9⅝-inch at 2,756 feet. It bottomed the salt at 2,590 feet.

Atlantic Oil Producing Co.'s No. 1 State, NE cor., Section 6-19-38, is drilling at 3,388 feet. It encountered the upper pay at 3,220-50 feet and was estimated at 300 bbls. daily from that horizon. Same company's No. 1 Grimes, SW cor. SE, Section 20-18-38, is still a location.

The California Co.'s No. 2 State, NE SW SE, Section 29-18-38, cemented the 9⅝-inch at 2,822 feet, and its No. 3 State, SE cor., Section 29-18-38, spudded on August 12 and is drilling at 120 feet in sand. The same company's No. 1 McKinley, 1,320 feet from west line and 2,310 feet from north line, has rig up, and its No. 4 State, SW cor. SE, Section 29-18-38, is a rig.

Continental Oil Co.'s No. 1-A State, SE NW SE, Section 29-18-38, is drilling at 2,885 feet and had a show of gas at 2,784 feet. Its No. 2-A State, SE cor. SW, Section 29-18-38, is drilling at 2,306 feet in salt. It topped the anhydrite at 1,485 feet and the salt at 1,620 feet. It encountered an air pocket at 2,330 feet. Same company's No. 3-A State, NE NW SE, Section 29-18-38, is drilling at 2,219 feet in salt. It topped the anhydrite at 1,500 feet and the salt at 1,625 feet. The Continental's No. 1-B State, C SW SW, Section 33-18-38, is drilling at 3,620 feet in anhydrite and lime, and its No. 2-B State, NW cor. SW, Section 33-18-38, cemented the 9⅝-inch at 2,7404 feet. Same company's No. 3-B State, CNL SW, Section 33-18-38, lost the hole at 120 feet and skidded rig 24 feet to the west.

Empire Gas & Fuel Co.'s No. 1 Hardin, SE cor. NW, Section 19-18-38, is drilling at 1,700 feet in red shale and anhydrite. It topped the anhydrite at 1,471 feet and the elevation is 3,662 feet. Same company's No. 2 Hardin, SW cor. NW, Section 19-18-38, spudded August 8 and is drilling at 1,130 feet in the red beds, and its No. 2 Fowler, NW cor. NE, Section 31-18-38, cemented the 9⅝-inch at 2,735 feet. George F. Getty, Inc.'s No. 5 McKinley, NE cor., Section 30-18-38, is still a location.

Gypsy's Operations

The Gypsy Oil Co.'s No. 2 Grimes, NE SE NW, Section 32-18-38, is coring at 3,982 feet, and its No. 3 Grimes, NE cor. SW, Section 32-18-38, cemented the 7-inch at 3,949 feet. Same company's No. 4 Grimes, NE cor. NW, Section 32-18-38, is drilling at 3,248 feet and had a show of gas at 2,774-2,818 feet. Its No. 5 Grimes, SW cor., Section 32-18-38, is drilling at 3,645 feet, and its No. 1 Graham, SE cor. NE, Section 24-18-37, cemented the 9⅝-inch at 2,808 feet. Last named topped the salt at 1,640 feet and bottomed it at 2,640 feet.

Hobbs High, Inc.'s No. 1 Tatum, NW SW SW, Section 35-18-38, is shut down at 3,805 feet in lime and anhydrite waiting for drilling line.

The Humble Oil & Refining Co.'s No. 3 Bowers, SW cor., Section 29-18-38, cemented the 6⅝-inch at 2,960 feet, and its No. 4 Bowers, SE cor., Section 30-18-38, cemented the 6⅝-inch at 3,970 feet. Same company's No. 5 Bowers, NW NE SE, Section 30-18-38, is drilling at 3,886 feet in lime, and its No. 8 Bowers, SW cor. SE, Section 30-18-38, cemented the 9⅝-inch at 2,750 feet. Humble's No. 9 Bowers, SE SW NW, Section 29-18-38, is drilling at 2,752 feet in anhydrite, and its No. 10 Bowers, NE NW SW, Section 29-18-38, is shut down at 205 feet. Same company's No. 1 Grimes, SW NE NE, Section 29-18-38, cemented the 12½-inch at 245 feet in red rock and rigging up rotary.

Landreth Production Co.'s No. 1-B State, SW cor. NW, Section 33-18-38, is drilling at 3,748 feet in lime, and its No. 2-B State, CSL NW, Section 33-18-38, is drilling at 2,507 feet in salt. Last named topped the salt at 1,665 feet and encountered an air pocket at 2,340-50 feet.

Midwest Refining Co.'s No. 6 McKinley, NW cor., Section 5-19-38, is rigging up rotary, and its No. 8 State, C NW NW, Section 10-19-38, is drilling at 4,192 feet and heading every 30 minutes from 4,075-85 feet. Same company's No. 8 State, C NW NW, Section 4-19-38, which blew in at 4,026 feet last week and was estimated at 10,000 to 15,000 bbls., is killing blowout to complete. The Midwest's No. 26 Terry, C SE SE, Section 9-19-38, is standing cemented at 1,599 feet, and its No. 33 State, SE SW NW, Section 4-19-38, is standing with the 6⅝-inch cemented at 4,020 feet. Same company's No. 4 State, NE NW SE, Section 4-19-38, cemented the 10¾-inch at 2,745 feet. It bottomed the salt at 2,564 feet. Its No. 26 State, C SE NW, Section 4-19-38, is drilling at 3,771 feet and had gas at 3,700-10 feet.

Ohio Oil Co.'s No. 2 State, SE cor. SW, Section 30-18-38, topped the anhydrite at 1,428 feet and is drilling at 1,571 feet. The Ohio's No. 4 State-Northrup, NW cor. SE, Section 32-18-38, cemented the 9⅝-inch at 2,750 feet. It topped

(Continued on Page 110)

Playa Del Rey is Getting Active Play

Production Increasing Rapidly Although Wells Decline Quickly. Considerable Drilling Being Done at Long Beach

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., Aug. 23.—The Playa Del Rey Field of Los Angeles Basin is rapidly taking on the appeareance of a real oil field and with drilling operations increasing from week to week this district is expected to monopolize the spot light during the remainder of the year. Santa Fe Springs is gradually declining and, unless operators open up the producing wells which have been shut down in that district, Long Beach will probably surpass it from a production standpoint. The latter field already has more drilling wells under way than any other field in the State at the present time but will probably yield this honor to Playa Del Rey in the near future. Daily production at Long Beach has been consistently increasing during the past few months due to aggressive development of deep zones in both the eastern and western sections of the field. Santa Fe Springs, on the other hand, has been gradually declining during the same period due principally to the fact that drilling operations in that field have just about been concluded.

Daily production of Playa Del Rey has been consistently increasing during the past several weeks due to the completion of new wells and this field is expected to reach a substantially higher level later in the year, although there may be temporary fluctuations from time to time because of the frequency with which new wells are completed. Production curves indicate that producing wells in this field experience an abnormally rapid decline following completion and this should become a very important factor at a later date due to the drainage problem. The limited amount of oil sand present precludes the maintenance of substantial production as far as individual well production is concerned, although the aggregate field output may be favorable. Close spacing of wells in the town lot section of the Playa Del Rey Field is expected to cause serious financial losses to many operators because the 100 feet of oil sand cannot possibly yield a sufficient amount of oil to justify the drilling costs. On the basis of past experience, 25 per cent of the projects being drilled in the town lot section will pay out, while the remaining 75 per cent will not recover sufficient production to liquidate drilling costs.

Playa Del Rey Operations

There were no new wells finished in the Playa Del Rey Field during the past week, although several potential producers are being prepared for production in both the upper and lower zones. The Union Oil Co. is making exceptionally rapid progress with the three wells drilling on its townsite lease which adjoins the company's Del Rey property on the west, and the first of this trio should be listed for completion within the next two or three weeks unless something unforeseen develops. Several new wells were spudded in this week, including the Corrigan Petroleum's No. 1 Allison, Henry Dabney's No. 1 Robertson, Mason Syndicate's No. 1 Venice, M.C.R.R. Co.'s No. 2 Venice and the Venice Pacific Oil Co.'s No. 1 Venice. The Los Angeles city council, which has jurisdiction over operations in the Playa Del Rey Field because that district is located within the corporate limits of Los Angeles, has instructed its legal department to draft an ordinance levying a license fee amounting to 1 per cent of the value of all oil produced at Playa Del Rey. This proposal will not come up for consideration for another week or two but will probably be passed in the near future. Efficiency Director Knox recently recommended the imposition by the City of Los Angeles of a tax or license fee covering all wells at Playa Del Rey. He suggested a drilling fee of $500, but since this could not be made retroactive it has been tentatively decided to impose a production tax in its place. Mr. Knox drew the attention of the city council to the fact that the discovery of oil at Playa Del Rey has imposed upon the city government the necessity of providing fire protection, protection against pollution of the bathing beaches, police and traffic control and the repair of pavements injured by excessive truck traffic. The disposal of sump oil and surplus rotary drilling fluid is becoming quite a problem at Playa Del Rey but this will be taken care of upon completion of waste water disposal system which is rapidly nearing completion. The Venice Lagoon, which traverses the Playa Del Rey Field, makes it obligatory for operators to prevent the overflowing of sump holes in as much as this canal is connected with the Pacific Ocean by an open outlet. Because of the serious consequences resulting from pollution of the bathing beaches, operators drilling wells on private property inside the tide line have been obliged to construct heavily reinforced bulkheads. The proximity of these buffers to the tide line has brought up the question as to whether they will be able to withstand a heavily pounding surf which sometimes occurs during the winter months. Many of them are sufficiently strong to resist this pounding but others appear somewhat fragile. The latter group will probably be reinforced before the winter season sets in.

Long Beach

Several new wells were completed in the Long Beach Field during the past week, and, while none of them registered substantial production, most of them were nevertheless commercially profitable. The best well chalked up this week was the Italo Petroleum's No. 2 Gem, which was bottomed at 7,544 feet and finished with a 4¾-inch liner. This well, a former upper zone producer was returned to production flowing 1,360 bbls. of clean 29.6 gravity oil and 1,600,000 feet of natural gas per day. The Dabney-Johnston Oil Co. added a new well to its list of producers when No. 53 Signal was brought in flowing 500 bbls. of 29.2 gravity oil per day. This new well, located in the southeastern section of the field, was bottomed at 6,994 feet and finished with a 6⅝-inch oil string carrying 1,215 feet of perforated. This well was finished late in the week and may possibly show a substantially higher production after it has got well under way. This company is preparing three other wells for production at Long Beach and is rigging up two new holes for early work.

The Richfield Oil Co. recompleted No. 8 Haas several days ago and this former shallow producer was returned to production flowing 690 bbls. of 29.4 gravity oil daily. Drilling operations were concluded at 6,617 feet and the hole finished with a 3-inch liner including 300 feet of perforated. This well has the unique distinction of being redrilled and deepened seven times since its original completion and has proved a satisfactory producer on every deepening job. Because of the small diameter of the water string, 4¾-inch, it is not mechanically possible to carry it down any farther. The Community Monarch Petroleum successfully recompleted No. 1 Reagan during the early part of the week and this well was returned to production flowing 160 bbls. per day from 7,108 feet. F. H. Lathrop's No. 1 McAdoo, which was bottomed at 7,054 feet and finished with a 4¾-inch liner carrying 659 feet of perforated, was brought in flowing 375 bbls. of 28.6 gravity oil per day but has subsequently declined to 240 bbls. daily. George F. Getty has just started to swab No. 18 Signal, which has been completed at 7,169 feet and finished with a 6⅝-inch liner carrying 274 feet of perforated, but this well has not yet responded. It should, however, be tanking oil shortly, although substantial production is not anticipated. The General Petroleum has completed tentative plans to redrill and deepen its No. 4 Kelly as a conclusive deep test to determine the possibility of developing deeper production in the central portion of the field. Since the revival of drilling operations in the eastern and western sections of the Long Beach Field attention has been diverted from the center of the field and for this reason the outcome of work on No. 4 Kelly will be watched with considerable interest.

Santa Fe Springs

There were no developments of special importance in the Santa Fe Springs Field during the past week due to the limited amount of drilling under way. The only well put on production was the Standard's No. 28 South Whittier Community, which was recompleted doing 130 bbls. per day after being redrilled and deepened to 7,925 feet and finished with a 6⅝-inch liner carrying 505 feet of perforated. The General Petroleum is only working on two wells in this field at the present time, one of which, No. 160-D Santa Fe, is being rigged to deepen. Drilling operations in the town lot section of the Potrero Field have reached the stage where most of the incompleted projects are rotating ahead below the 5,000-foot level. If this work continues it is possible that several of these potential deep zone producers may be finished almost simultaneously. The chief difficulty in connection with development work at Potrero is the inability of operators to develop a sustained flow. Several productive horizons have been found at Potrero but the small thickness of oil-bearing formation is not sufficiently productive to sustain intensive development.

The St. Helens Petroleum Co.'s No. 15 Monterey, a projected deep test for the Montebello Field of Los Angeles Basin, is rotating ahead at 4,800 feet in what appears to be an exceptionally good looking oil sand. If any considerable amount of sand is found above the 5,000-foot level this well will probably be completed at that depth and deep exploratory work postponed until a later date. The Union is working on three potential producers in the Rosecrans Field at the present time and two of this trio should be tanking oil in the near future. The Barnsdall is making good footage in No. 2 Trust, a second well being drilled on this lease which was acquired by the Barnsdall after it had been quitclaimed by another operator. The Barnsdall's No. 1 Trust was completed several months ago doing 1,000 bbls. per day but has subsequently declined to approximately 250 bbls. at the present time. In the Dominguez Field of Los Angeles Basin the Shell is rotating ahead in an oil sand at 5,350 feet in No. 3 Childs. On the Manuel property the Shell's No. 7 is drilling ahead in a sandy shale at 5,820 feet.

San Joaquin Valley

The Associated Oil Co.'s No. 3 Whepley, which was finished flowing 3,250 bbls. per day from the Elliott zone at Kettleman Hills, is holding up in good shape. The oil from this new producer is being run out of the field through the Associated's pipe line which was laid last January to handle production from No. 1 Felix of the Petroleum Securities which was brought in at that time. Both No. 3 Whepley of the Associated and No. 1 Felix of the Petroleum Securities are located on fee acreage outside of the area covered by the Kettleman Hills agreement and are therefore permittd to flow unrestrained. No. 3 Whepley brings the total number of producing wells at Kettleman Hills to seven and increases the field's potential daily production to approximately 86,000 bbls.

The General Petroleum successfully completed No. 32 Heisen, a new well in the Mount Poso Field of Kern County during the early part of the week, and this project is pumping 205 bbls. of exceptionally clean 15.6 gravity oil per day from 1,650 feet. In the Round Mountain Field, Harry Failing completed his No. 1 Coffee pumping at the rate of 400 bbls. per day from 1,761 feet but this well was subsequently shut in due to transportation difficulties and the inability to dispose of production. In the Maricopa Flats section of the Midway-Sunset Field

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total This week	Daily average	Total last week	Daily average	This week to date	Same time last year
Crude oil	.....	.....	.....	.....	68,690	997,250
Fuel oil	.....	.....	.....	.....	71,950	49,950
Diesel and gas oil	.....	.....	.....	.....	2,294,195	1,210,934
Gasoline	464,010	66,287	486,033	69,433	12,734,692	13,232,264
Naphtha distillate	.....	.....	.....	.....	.....	81,750
Coastwise—						
Crude oil	148,000	21,143	394,400	56,343	9,629,480	15,855,865
Fuel oil	97,528	13,933	293,897	41,985	10,596,475	12,846,916
Diesel and gas oil	9,590	1,370	4,922	703	1,152,600	776,085
Gasoline	254,259	36,323	254,220	36,317	7,963,850	6,997,138
Kerosene	4,781	683	4,738	677	124,204	47,155
Exports—						
Crude oil	299,455	42,779	170,730	24,390	4,421,950	3,632,848
Fuel oil	335,877	47,982	292,446	41,921	11,530,213	11,900,500
Diesel and gas oil	90,758	12,965	102,233	14,605	2,990,083	1,624,456
Gasoline	284,910	40,701	130,395	18,628	10,155,630	7,075,100
Kerosene	119,449	17,064	189,228	27,933	2,570,166	2,015,716
Lubricants	.....	.....	.....	.....	10,082	.....

TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC AND GULF COAST PORTS

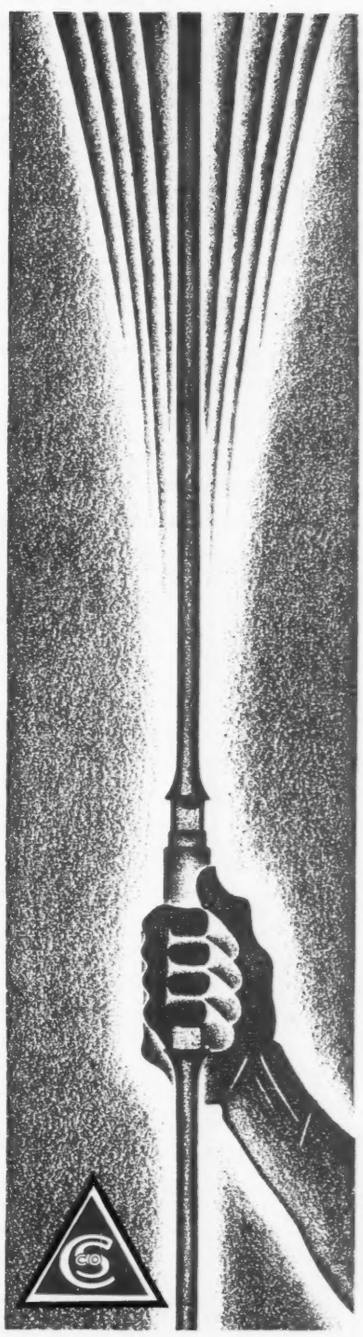
Diesel and gas oil	.....	.....	.....	.....	227,648	.....
Gasoline	.....	.....	.....	.....	783,367	1,346,502
Lubricants	.....	.....	.....	.....	16,776	69,172
Coastwise—						
Fuel oil	40,181	5,740	64,080	9,154	2,288,380	1,787,253
Diesel and gas oil	16,211	2,316	.....	.....	185,376	334,753
Gasoline	45,910	6,559	245,632	35,090	2,707,936	3,196,369
Kerosene	1,902	272	5,180	740	152,702	96,996
Exports—						
Crude oil	.....	.....	.....	.....	3,075	121,603
Fuel oil	.....	.....	.....	.....	662,135	529,011
Diesel and gas oil	.....	.....	.....	.....	307,209	213,854
Gasoline	.....	.....	85,030	12,147	2,605,171	3,716,870
Kerosene	.....	.....	95,165	13,595	503,368	387,450
Lubricants	.....	.....	.....	.....	18,672	23,113

This Steel has VIBRATION Whipped that's why

D+B

HEATREAT SUCKER RODS

Give Better Service and Have Longer Life



"If Continental Sells It.... There Is No Better"

THE CONTINENTAL SUPPLY COMPANY
General Offices: ST. LOUIS

THE CONTINENTAL SUPPLY CO., LTD.
224 Traders Building, Calgary, Alberta, Canada

Export Offices:
CONTINENTAL EMSCO COMPANY, INC.
74 Trinity Place, New York
London Offices: 316-17 Dashwood House, Old Broad St., E.C. 2

CONTINENTAL EMSCO S. A. R.
7, Strada Eminescu, Ploesti, Romania

CONTINENTAL

the Barnsdall Oil Co. finished No. 1 Son-Crail in Section 8-11-23 and this new well is flowing 830 bbls. of 21.8 gravity oil per day from 3,653 feet, the hole having been finished with a 6⅝-inch liner carrying 100 feet of perforated. The completion of No. 1 Son-Crail by the Barnsdall has proved up a portion of the Union's Son lease with the result that the latter has started rig construction for an offset.

Midway-Sunset

Drilling operations at Midway-Sunset have declined to the point where there are only a few strings of tools in operation. With the completion of development work in the Maricopa Flats, several operators have transferred their activities to the older section of the field. The deepest well under way in the Midway-Sunset Field at the present time is the Union Oil Co.'s No. 4 Houchin, a drilling project which is at the present time rotating ahead in a gray sandy shale at 7,580 feet. The Belridge Field of Kern County will probably occupy a prominent place in the spotlight during the next several months due to the starting of several new deep tests drilled for the purpose of determining the potentiality of the Temblor which has proven so prolific at Kettleman Hills and which is thought to have been encountered in the Belridge Oil Co.'s well No. 15 in the North Belridge Field. This well, which focused the attention of operators on the possibilities of the Lost Hills and Belridge Fields of Kern County, is being deepened at the present time.

In addition to the Richfield Oil Co.'s No. 1 Belridge in Section 20-27-20 at Belridge and the Universal Consolidated's No. 49 and George F. Getty's No. 1 in Section 12-26-20 at Lost Hills, preparations are being made to start several additional deep tests in these two fields. The General Petroleum is already pouring foundations for a new rig to be erected on the Berry property in Section 30-28-21 and the Union Oil Co. has tentatively located a new well, although no definite time limit has been set for the initiation of drilling. In the Capitan Field of Santa Barbara County the General Petroleum has successfully finished No. 7 Erburu pumping 220 bbls. of 19.6 gravity oil per day from 1,463 feet, the hole having been plugged back from 1,478 feet. In the Newhall district of Los Angeles Basin, York & Smullin have finished No. 3 Clampitt, a new well, pumping 120 bbls. of 22.6 gravity oil per day from 1,300 feet, the hole having been finished with an 8⅝-inch liner carrying 290 feet of perforated.

IMPORTANT NEW WILDCAT TEST TO BE DRILLED IN SOUTH ALBERTA

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Aug. 23.—An important new wildcat test will likely be undertaken in southern Alberta as a result of negotiations now being concluded between Imperial Oil, Ltd., and The Texas Oil Co. of Canada. Arrangements contemplate a deep drilling test on acreage a few miles southwest of Lethbridge, where the Imperial and Texas interests together control about 40 sections. The Imperial holdings in this area include acreage secured some weeks ago from Benton Oils, Ltd. The structure to be tested is east of and parallel to the Blood Reserve structure where Commonwealth Petroleum, Ltd., of Calgary, has been carrying on extensive core drilling. Imperial Oil, Ltd., will, in the drilling operations, carry on through its operating subsidiary, the Northwest Company. The Texas-Northwest test will start without any preliminary sub-surface testing, if a satisfactory agreement is reached and cable tool equipment will move to location toward the end of August.

Turner Valley Producer

In the central Turner Valley area, Spooner Oils' No. 1, L.S.D. 12, Section 13-20-3w5, which for some time had a small production from the lime at 5,260 feet, was shot, increasing the wet gas flow to around 10,000,000 feet, with potential crude naphtha recovery of 100 bbls. a day. The well previously produced a peak of about 55 bbls., but had declined to around 20 bbls., owing to an obstruction in the hole. The shot went off unexpectedly after about 550 quarts had been lowered into the hole, but no serious damage was done. Spooner's No. 4, L.S.D. 14, same section, is reported drilling 12½-inch hole for the 10-inch string in the Kootenays at 3,902 feet.

Richfield Petroleums, Ltd., has located its No. 2 test immediately north of Spooner's No. 1 producer, on a 10-acre tract secured from the Spooner estate. Richfield's No. 1, in L.S.D. 14, Section 25-20-4w5, on the Waite Valley structure, was recently abandoned at 4,765 feet after striking a fault. Drilling equipment is being moved to No. 2, where cellar has been dug. No. 2 will spud in early in September.

Imperial Drilling

In the Central Turner Valley, two wells of the Imperial group are testing production from the deep lime. Dalhousie Oil Co.'s No. 7, LSD 11, Section 18-20-2w5, is testing at 5,338 feet, some 339 feet in the lime, and looks like a fairly good well. Royalite Oil Co.'s No. 9, LSD 6, Section 13-20-3w5, has been cleaned out following a shot and is testing at 5,593 feet. The initial gas flow was reported very large, but it is not known whether it will hold up.

Deepening of Wells

A feature of recent operations by Imperial Oil, Ltd., in the Turner Valley Field is the systematic deepening of wells which have been taking a small production of light crude from the upper horizons, and the shooting of wells whose crude naphtha recovery from the deep lime has fallen off or was originally small. Fairly good results have attended these operations. The general experience of the Turner Valley Field has been that the light crude producers, even where there is a good initial production, do not hold up for any extended period. The most notable exception has been Dalhousie Oil Co.'s No. 5, which has maintained a fairly satisfactory production for several years.

In the international Red Coulee Field, latest reports state that Monalta Oil Co.'s No. 3 Buckley, SW SW, Section 1-37-4w, which got the sand at 2,520 feet has been drilled to 2,540 feet and is a commercial producer. Swabbing tests indicate the well is good for approximately 200 bbls. free from water and other sediments. Deliveries are being already made to the Illinois Pipe Line Co. and the well will be put on the pump at once. Monalta's No. 2 producer will be deepened to the second sand as soon as this is done.

Alberta Pacific Consolidated's No. 1 Singleton, offsetting Hannah-Porter's No. 1, is reported to have been drilled into production at 2,492 feet. Casing was set on top of the Vanalta sand at 2,450 feet and the first oil showings met at 2,468 feet. A production of 60 bbls. is indicated. If this does not hold up on the pump, the well will be deepened to the Cosmos sand.

On the Alberta side, Southern Alberta Exploration's No. 1, LSD 8, Section 3-1-16w4, which has production at 2,420 feet, is skidding derrick for No. 2 and will erect pumping derrick at No. 1, where gas engine has been installed to handle pumping. No. 1 is reported making 80 to 100 bbls.

The Illinois Pipe Line Co. is seeking

(Continued on Page 130)

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Standard, No. 1 Point Conception, Santa Barbara Co.	X- 5-34	5,591	hd. sd. drilling
Universal Consd., No. 1 Pt. Conception, Santa Barbara Co.	30- 5-34	4,240	hd. sh. drilling
Prairie Oil Co., No. 1 Lompoc, Santa Barbara Co.	15- 7-35	4,877	hd. sd. drilling
Fields Gasoline Co., No. 1 Santa Maria, Santa Barbara Co.	8- 9-33	4,300	br. sh. drilling
Western Gulf, No. 1 Santa Maria, Santa Barbara Co.	5- 9-33	rig	rigging up
Barnsdall, No. 1 Gato Ridge, Santa Barbara Co.	9- 8-32	3,080	sd. sh. drilling
Midwest Oil Co., No. 1 Los Alamos, Santa Barbara Co.	2- 7-33	....	grading
General Pet., No. 1 Goleta, Santa Barbara Co.	21- 4-28	4,533	shut in
General Pet., No. 2 Goleta, Santa Barbara Co.	21- 4-28	4,350	suspended
General Pet., No. 3 Goleta, Santa Barbara Co.	21- 4-28	1,010	sd. sh. drilling
General Pet., No. 134 Goleta, Santa Barbara Co.	21- 4-28	1,485	suspended
General Pet., No. 136 Goleta, Santa Barbara Co.	21- 4-28	1,016	suspended
General Pet., No. 137 Goleta, Santa Barbara Co.	21- 4-28	1,026	suspended
General Pet., No. 138 Goleta, Santa Barbara Co.	21- 4-28	4,931	suspended
General Pet., No. 139 Goleta, Santa Barbara Co.	21- 4-28	1,035	suspended
General Pet., No. 143 Goleta, Santa Barbara Co.	21- 4-28	1,040	suspended
Boles Oil Co., No. 140 Goleta, Santa Barbara Co.	22- 4-28	1,040	suspended
U. S. Pet., No. 141 Goleta, Santa Barbara Co.	20- 4-28	1,035	suspended
U. S. Pet., No. 142 Goleta, Santa Barbara Co.	20- 4-28	1,032	suspended
U. S. Pet., No. 143 Goleta, Santa Barbara Co.	20- 4-28	1,019	suspended
El Camino, No. 149 Goleta Tideland, Santa Barbara Co.	22- 4-28	1,035	suspended
Bolsa Chica, No. 191 Goleta, Santa Barbara Co.	24- 4-29	1,401	hd. sd. drilling
Caldwell Brown, No. 159 Goleta, Santa Barbara Co.	24- 4-29	1,040	suspended
Cochran, J. H., No. 1 Naples, Santa Barbara Co.	7- 4-29	2,409	sd. sh. drilling
Wildcat Oil Co., No. 1 Santa Maria, Santa Barbara Co.	20-10-35	5,280	sd. sh. drilling
Pacific Western, No. 1 Gibraltar, Santa Barbara Co.	14- 5-27	2,345	suspended
Shell, No. 1 Summerland, Santa Barbara Co.	18- 4-25	4,404	recemented
Continental, Tideland permit No. 121, Santa Barbara Co.	33- 4-25	1,085	suspended
Continental, Tideland permit No. 122, Santa Barbara Co.	33- 4-25	1,020	suspended
Continental, Tideland permit No. 123, Santa Barbara Co.	33- 4-25	1,020	suspended
Continental, Tideland permit No. 124-A, Santa Barbara Co.	33- 4-25	418	suspended
Continental, Tideland permit No. 125, Santa Barbara Co.	33- 4-25	1,455	suspended
Continental, Tideland permit No. 126, Santa Barbara Co.	33- 4-25	1,034	suspended
Continental, Tideland permit No. 127, Santa Barbara Co.	33- 4-25	1,055	suspended
Continental, Tideland permit No. 128, Santa Barbara Co.	33- 4-25	1,054	suspended
Continental, Tideland permit No. 129, Santa Barbara Co.	33- 4-25	1,020	suspended
Exeter Oil Co., Tideland permit No. 163, Santa Barbara	32- 4-25	76	suspended
Shell, No. 5 Oxnard, Ventura Co.	14- 2-20	2,950	sd. sh. drilling
Prairie Oil & Gas Co., No. 1 Ventura, Ventura Co.	30- 3-22	6,990	sd. sh. drilling
Rio Grande, No. 1 Lankershim, Ventura Co.	13- 4-19	2,000	hd. sd. drilling
General Pet., No. 1 Fillmore, Ventura Co.	6- 3-19	3,190	br. sh. drilling
Associated, No. 1 Rincon Creek, Ventura Co.	19- 4-24	2,080	suspended
Pure Oil Co., No. 1 S. P. Canyon, Ventura Co.	15- 4-21	1,706	sd. sh. drilling
Superior Oil Co., No. 1 Sespe, Ventura Co.	14- 4-21	148	sd. drilling
Lockwood Valley Oil Co., well No. 1, Ventura Co.	32- 8-21	mtl.	building rig
Nordon Oil Co., No. 1-A Buttonwillow, Kern Co.	7-29-24	4,804	sd. sh. drilling
General Pet., No. 1 Belridge, Kern Co.	30-28-21	mtl.	building rig
Richfield, No. 1 Belridge, Kern Co.	20-27-20	3,570	sd. sh. drilling
Rio Grande, No. 1 Belridge, Kern Co.	18-28-22	3,680	cleaning out
Shell, No. 1 Weed Patch, Kern Co.	29-30-29	5,029	will deepen
Petroleum Securities, No. 1 Edison, Kern Co.	14-29-29	2,406	hd. sd. drilling
Symark Oil Co., No. 1 Edison, Kern Co.	24-29-29	2,130	suspended
Sayre, F. M., No. 1 Edison, Kern Co.	5-30-29	4,220	suspended
Elmer Oil Co., No. 1 Tejon, Kern Co.	15-30-30	5,050	suspended
Shell, No. 1 Semitropic, Kern Co.	17-27-23	5,411	sd. sh. drilling
Moran & DeCamp, No. 1 Mojave, Kern Co.	26-10-14	602	hd. sd. drilling
Bardeen, H. A., No. 1 San Emidio, Kern Co.	18-10-23	1,190	suspended
Bardeen, H. A., No. 2 San Emidio, Kern Co.	10-10-23	3,551	granite
Stabler, W. W., No. 1 Commanche Pt., Kern Co.	4-11-18	2,040	redrilling
Ritchie, J. J., No. 1 Tejon, Kern Co.	33-11-19	2,418	sd. sh. drilling
Wrenn, J., No. 1 Antelope Plains, Kern Co.	32-25-17	812	suspended
Richfield, No. 1 Kreyenhagen, Fresno Co.	33-22-16	3,065	sd. sh. drilling
Ohio Oil Co., No. 1 Coalinga, Fresno Co.	8-21-15	3,412	sd. sh. drilling
Associated, No. 1 Jacalitos, Fresno Co.	22-21-15	....	location
Petroleum Securities, No. 2 Huron, Fresno Co.	28-20-16	7,390	suspended
Panorama Oil Co., well No. 1, San Luis Obispo Co.	7-31-21	4,019	suspended
Latin Amer. Pet., No. 1 Shandon, San Luis Obispo Co.	21-27-15	4,480	cleaning out
Paso Robles Synd., No. 1 Creston, San Luis Obispo Co.	27-27-11	3,941	cleaning out
Potter, F. J., No. 1 Atascadero, San Luis Obispo Co.	24-28-12	mtl.	building rig
Union, No. 1 King City, Monterey Co.	8-22- 8	3,250	suspended
Standard, No. 1 King City, Monterey Co.	23-22- 7	5,146	hd. sd. drilling
O'Donnell, J. E., No. 1 Dudley Ridge, Kings Co.	7-23-20	1,635	plug back
Penn Western, No. 1 Tulare Lake, Kings Co.	24-21-18	1,338	suspended
Wellport Oil Co., No. 1 Devils Den, Kings Co.	9-24-17	3,940	suspended
Twin State Oil Co., No. 1 Point Arena, Mendocino Co.	14-12-17	4,160	hd. sd. drilling
Oakdale Oil Co., No. 1 Oakdale, San Joaquin Co.	3- 2-10	3,535	suspended
Orinda Pet., well No. 1, Contra Costa Co.	32- 1- 3	620	sd. sh. drilling
White, Roy, No. 1 Pixley, Tulare Co.	8-23-26	4,022	suspended
Terra Bella Oil Co., No. 1 Porterville, Tulare Co.	35-22-27	912	cleaning out
Western Oil Co., No. 1 Porterville, Tulare Co.	35-22-27	1,022	granite
Consd. Properties, No. 1 Porterville, Tulare Co.	35-22-27	1,003	abandoning
Terra Bella Drlg. Co., No. 1 Porterville, Tulare Co.	34-22-27	925	testing
Payatt Oil Co., No. 1 Porterville, Tulare Co.	34-22-27	rig	suspended
Turner Oil Co., No. 1 Porterville, Tulare Co.	34-22-27	829	sd. sh. drilling
Larson Oil Co., No. 1 Porterville, Tulare Co.	11-23-27	412	sd. sh. drilling
Alexander Ford, No. 1 Porterville, Tulare Co.	34-22-27	602	sd. sh. drilling
Colusa Oil Co., No. 1 Bush, Colusa Co.	31-15- 4	688	hd. sd. drilling
Getty Oil Co., No. 1 Nigger Heaven, Yolo Co.	23-12- 3	rig	rigging up

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Union, No. 1 Orchard Dale, Los Angeles Co.	10- 3-11	4,098	sd. sh. drilling
Olympic Realty Corp., No. 1 Venice, Los Angeles Co.	14- 2-15	412	sd. sh. drilling
Burlingham Pet., No. 1 Compton, Los Angeles Co.	17- 3-13	4,490	suspended
Francis, Don, No. 1 Compton, Los Angeles Co.	8- 3-13	572	set pipe
Carlyn, C. H., No. 1 Compton, Los Angeles Co.	9- 3-13	961	sd. drilling
Central Oil Co., No. 1 Compton, Los Angeles Co.	28- 3-13	5,094	cleaning out
Combs, E., No. 1 Compton, Los Angeles Co.	16- 3-13	121	sd. drilling
Olio, No. 1 Moneta, Los Angeles Co.	35- 3-14	7,380	hd. sd. drilling
Guajome Oil Co., No. 1 El Nido, Los Angeles Co.	33- 3-14	rig	suspended
Cal. Ventura Oil Co., No. 1 Manhattan, Los Angeles Co.	30- 3-14	6,525	suspended
Cal. Ventura Oil Co., No. 1 Hermosa, Los Angeles Co.	31- 3-14	3,388	cleaning out
McMahon & McDonald, No. 1 Watts, Los Angeles Co.	12- 3-14	4,665	suspended
Tri-State Oil Co., No. 1 Watts, Los Angeles Co.	12- 3-14	4,512	sd. sh. drilling
Rio Grande Oil Co., No. 1 Watson, Los Angeles Co.	17- 4-13	6,295	fishing
Cal. Well Drlg. Co., No. 1 Dominguez, Los Angeles Co.	11- 4-13	8,500	fishing
Shell, No. 1 Van Nuys, Los Angeles Co.	19- 2-15	4,414	sd. sh. drilling
Rio Hondo Pet., No. 1 Puente, Los Angeles Co.	14- 2-10	2,798	fishing
Bidart Oil Co., No. 1 Puente, Los Angeles Co.	15- 2-10	1,010	sd. drilling
Rucker, R. C., No. 1 Puente, Los Angeles Co.	27- 2-10	3,860	suspended
Bardeen Pet., No. 1 Puente, Los Angeles Co.	9- 2-10	4,060	br. sh. drilling
Keck & Hall, No. 1 Puente, Los Angeles Co.	32- 2- 8	1,120	gas—shut in
Marcel Pet. Co., No. 1 Puente, Los Angeles Co.	31- 2- 8	2,794	br. sh. drilling
Celito Oil Co., No. 1 Monterey Park, Los Angeles Co.	25- 1-12	5,278	cleaning out
Los Gatos Oil Co., No. 1 El Monte, Los Angeles Co.	16- 1-11	1,050	cleaning out
Olympic Corp., No. 1 Calabasas, Los Angeles Co.	18- 1-17	5,695	set pipe
Union, No. 1 Coyote Sansinena, Los Angeles Co.	30- 2-10	4,890	br. sh. drilling
Tureco Oil Co., No. 1 Whittier, Los Angeles Co.	29- 2-11	5,600	fishing
Western Gulf, No. 1 Brea Canyon, Los Angeles Co.	28- 2- 9	6,588	fishing
Lamona Oil Co., No. 1 Pomona, Los Angeles Co.	34- 1- 9	890	hd. sd. drilling
Graham & Loftus, No. 1 Coyote, Orange Co.	18- 3- 9	6,204	sd. sh. drilling
Mesa Pet., No. 1 Newport, Orange Co.	21- 6-10	4,910	suspended
Hall, H. L., No. 1 Newport, Orange Co.	20- 6-10	790	suspended
Standard, No. 1 Newport, Orange Co.	26- 6-10	1,990	sd. sh. drilling
Fidelity Pet. Co., No. 1-A Murrietta, Riverside Co.	23- 7- 3	701	cleaning out
Hemet Pet. Co., No. 1 Ward, Riverside Co.	9- 5- 1	3,560	suspended
Imperial Valley Oil Co., No. 1 Brawley, Imperial Co.	32-11-10	3,000	hd. sd. drilling
McGregor Synd., No. 1 Del Mar, San Diego Co.	17-14- 3	1,265	cleaning out
Borderland Oil Co., No. 1 Encinitas, San Diego Co.	12-13- 4	2,424	hd. sd. drilling
Borderland Oil Co., No. 1 Point Loma, San Diego Co.	30-16- 3	2,416	gr. sd. drilling
Carr, O. K., No. 1 Capistrano, San Diego Co.	13- 8- 8	4,294	hd. sd. drilling
Grey, H. H., No. 1 Redlands, San Bernardino Co.	25- 1- 2	2,525	fishing
Girard & Grimes, No. 1 Corona, San Bernardino Co.	8- 2- 8	1,549	suspended
Western Gulf, No. 1 Santa Ana, Orange Co.	12- 3- 8	mtl.	building rig

Leck Pool, Winkler County, Extended

New Record Total Depth in Big Lake Field, Reagan County. District Proration Plans Discussed. Fisher County Showing

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Aug. 25.—Winkler County interest was revived a little this week when the Atlantic Oil Producing Co. and Maxwell's No. 1 Daugherty, in Section 16, Block 74, tested approximately 1,500 bbls. of oil per day flowing through 3-inch tubing, with 4,000,000 feet of gas. This well extends production in the Leck Pool about three-quarters of a mile south. The pay was believed topped at 3,081 feet, the total depth of the hole, making the well run a little higher structurally than wells in the Leck Pool and may extend production farther south to connect with the Hendricks Pool.

Fuhrman Petroleum Corp.'s No. 1 Ford, in Section 16, Block A-43, Andrews County, the 26,000,000-foot gasser which caused considerable excitement for this area, is still shut down at 4,067 feet after recovering tools which were lost in the hole. The test is to be drilled deeper in an effort to pick up an oil pay.

Southern Crude Oil Purchasing Co.'s No. 1 Cowden, 2,310 feet from the north and 330 feet from the west lines of Section 26, Block 43, approximately 16 miles southeast of the Fuhrman gasser in Andrews County, had a gas showing at 3,943 feet, and was shut down at 3,957 feet to set casing. Acreage between these two wells has increased greatly in price, what little acreage was left open for purchase. It is generally believed the lime has not yet been encountered, and nothing definite will probably be stated until the test is deepened, although lime has been drilled about 10 feet to the present total depth without a break, and it is quite possible the lime top was picked up around 3,943 feet where the 50,000 feet of gas was struck.

New Record at Big Lake

Big Lake Oil Co.'s No. 3-C University, in the Big Lake Field, has drilled to a new record total depth for the Permian Basin. Present total depth is 8,923 feet. The same company's No. 2-C University is gradually gaining in production, and set a new peak of 2,317 bbls. this week, not far behind the daily production of Texon Oil & Land Co.'s No. 1-B University which was the initial deep producer in this field at a total depth of 8,525 feet. It is producing an average of around 2,729 bbls. per day with better than 26,000,000 feet of gas.

Crane-Upton Production

Crane and Upton County proration struck a snag when one of the major companies operating in these fields negatived the recommendation proposed for the fields, and these objections were again voiced today at the statewide meeting at Austin. Air and gas lift used on some of the wells in the Crane Field was the main source of contention, but The Texas Company which was using the lift on the largest well in the Church-Fields Pool, No. 11 University, agreed to stand the heavy loss which will be incurred in prorating this well on the basis planned. It seems that no other method for producing the well is feasible.

It is contended by the opposing company that the proposed plan will work a disproportionate amount of the curtailment on its property which has only 95 wells whereas there are 200 wells belonging to neighboring operators and companies which own only six sections out of the 22 which will come under the proration for the field.

Big Lake Curtailment Plans

David Donoghue also turned in his report on the Big Lake Field, Reagan County, after making over a week's study of the field, and this report was to be discussed at the meeting at Austin today. The study of the field was made after the two participating and operating companies in the field, the Big Lake Oil Co. and Group No. 1 Oil Co., which is principally owned by the Continental Oil Co., objected to the proration of that field as recommended to the Railroad Commission on July 30. An existing contract for purchase of the oil produced, and possibility of running the deep producers were named as the two main barriers to curtailing this field which has three pay horizons, one at 2,400 feet, one at 3,000 feet and the Ordovician lime at 8,500 feet. Five recommendations were made for curtailing the production from the latter pay. Reducing the gas-oil ratio, decreasing size of chokes and flowing well on choke only, tube all wells that are permitting excessive amounts of gas to by-pass the oil, and kill No. 1-B, the discovery well, so as to replace with proper fittings, and drill no more wells, were the five methods named as possible for cutting down the production in the 8,500-foot pay.

WEST TEXAS PRODUCTION
Week ending August 23

County—	Wells	Bbls.
Andrews	2	124
Crane	355	32,145
Crockett	48	1,831
Ector	59	7,725
Fisher	7	1,825
Garza	5	27
Howard-Glasscock	522	23,581
Irion	5	115
Jones	73	1,341
Loving	24	1,650
Mitchell	146	2,063
Pecos	487	106,519
Reagan	258	21,683
Runnels	3	10
Scurry	5	10
Taylor	2	74
Upton	250	7,376
Ward	34	2,806
Winkler	594	73,273
Total this week		284,178
Total last week		292,144
Decrease		7,966

Irion County Well

The Tankersley Pool of Irion County recorded another small sweet oil producer this week in Cromwell and Texannati Oil Co.'s No. 3 Nutt, in Block 6, Gonzales County School Lands Survey. This well topped the sand at 1,440 feet and was drilled to 1,447 feet, but plugged back to 1,445 feet before completion. Initial production was placed at 60 bbls. per day.

Fisher County Show

The Texas Company's No. 1 Teagarden, in Section 8, Richardson Survey, Fisher County, west offset to Midwest Exploration Co.'s No. 1 Steele which was completed about six months ago, had an oil showing in the Fisher County pay from 3,180-85 feet, was drilled to a total depth of 3,225 feet but plugged back to 3,193 feet before shooting with 40 quarts from 3,177-88 feet. The shot had no result, and it is doubtful what the company will now do with the test, which is approximately 6 feet higher than the offset producer.

WILDCAT OPERATIONS IN WEST TEXAS

Week Ended August 25

Company, well, farm name, section and block—	Remarks—
ANDREWS COUNTY	
Deep Rock Oil Co. et al's No. 1 Mathis, 900 ft. from S and W, Sec. 4, Blk. A-46, Public School Land	Swabbed 100 bbls.; swabbing dry; shot with 160 qts. from 4,168-4,232 ft.; total depth 5,088 ft.
Deep Rock Oil Co.'s No. 1 Miles, 900 ft. S, 1,650 ft. E of NW cor., Sec. 22, Blk. A-46, School Land	Shut down 4,765 ft.
Fuhrman Pet. Corp.'s No. 1 Ford, 440 ft. from S and 2,200 ft. from W of Sec. 16, Blk. A-43, Public School Land	Fishing 4,068 fct.
Deep Rock Oil Co. et al's No. 1 King, 330 ft. from N and 2,310 ft. from E, Sec. 11, Blk. A-46	Top pay 4,335 ft.; flows every 4 days; temporarily abandoned; total depth 4,454 ft.
Maer & Saniforth's No. 1 Meador, C SW Sec. 8, Blk. A-41	Drlg. 3,105 ft.
R. R. Penn's No. 1 Wilson, C Sec. 20, Blk. A-37, School Land	Shut down 4,775 ft.; makes small flow from 3,085 ft. every 2 or 3 days.
BREWSTER COUNTY	
Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor., Sec. 45, Blk. G-15, G.C.&S.F. Sur.	Shut down 1,935 ft.
E. L. Chapman's No. 1 Skinner, C SW SE Sec. 100, Blk. 2, G.C.&S.F. Sur.	Shut down 1,302 ft.
Trans-Pecos Oil & Gas Co.'s No. 1 Jones, 920 ft. from N and 2,500 ft. from E of Sec. 18, Blk. G-15, G.C.& S.F.R.R. Sur.	Shut down 2,510 ft.
Van McPhail's No. 1 McIntyre, SE cor. Sec. 59, Blk. 352, 7 mi. S of Alpine	Shut down 1,750 ft.
COKE COUNTY	
Arkansas Fuel Oil Co.'s No. 1 Stepp, 1,020 ft. NE, 2,340 ft. W of SE cor. Sec. 35., Blk. 1-A, H.&T.C. Sur.	Drlg. 4,075 ft.
CONCHO COUNTY	
Beesley et al's No. 1 S. Warning Est., 1,320 ft. from S and E of A. T. Robinson Sur., Abst. 2,120	Spudded.
Turner et al's No. 1 Borsig, 150 ft. from S of NE cor., G. Emmig Sur. 130, 6 mi. W of Paint Rock	Shut down 1,550 ft.
CRANE COUNTY	
Cranfill Bros. and Gulf's No. 1 J. B. Tubb, 2,310 ft. from N and 330 ft. from E of Sec. 8, Blk. B-27, Public School Land	Fishing 3,993 ft.
Cranfill Brothers' No. 1 Muir, 330 ft. from N and 2,310 ft. from W Sec. 23, Blk. B-27, Public School Land	Location.
Cranfill Bros. et al's No. 1 J. F. Muir, 2,310 ft. from W and 330 ft. from N, Sec. 23, Blk. 27, Public School Land	Moving in material.
C. C. Duffey's No. 1-C Cowden Bros. & Co., 2,640 ft. from S and 3,960 ft. from W of Juan Cordona Sur.	Drlg. 2,240 ft.
CROCKETT COUNTY	
Dixie Oil Co. and Amerada's No. 2 Powell, 258 ft. N and 2,349 ft. W of NE cor. of Sec. 42, T.C. Ry., but located in Sec. 52, Blk. BB	Building rig.
Doleman & Moore's No. 1 Perner, 3,135 ft. from N and 1,485 ft. from E of Sec. 36, Blk. 2, I.&G.N. Sur.	Spudded and shut down.
Magnolia Pet. Co.'s No. 1 Hoover, 2,310 ft. from N and 330 ft. from E of Sec. 12, Blk. 1, G.C.&S.F.R.R. Sur.	Drlg. 6,080 ft.
Magnolia Pet. Co.'s No. 2 Hoover, 2,310 ft. from S and 335 ft. from E of Sec. 2, Blk. FF, B.&B. Sur.	Shut down 350 ft.
CULBERSON COUNTY	
Grisham & Hunter's No. 2 Garren, 2,475 ft. from S and 1,566 ft. from E, Sec. 20, Blk. 89, Public School Land	Shut down 1,520 ft.
Kornrumpf et al's No. 1 Garren, 330 ft. S and W. Sec. 15, Blk. 79, Public School Land	Shut down 850 ft.
ECTOR COUNTY	
C. P. Davis et al's No. 1 Hendricks, C SW Sec. 46, Blk. 42, Twp. 2s, T.&P.R.R. Sur.	Shut down 4,012 ft.
Humble Oil & Ref. Co.'s No. 1 Jones, 330 ft. from S and 423 ft. from W of Sec. 6, Blk. 44, T.&P. Sur.	Drlg plug 3,229 ft.
Independent Oil & Gas Co.'s No. 1 Eidson, 1,250 ft. S and 2,144 ft. E of NW cor. Sec. 6, Blk. 44, Twp. 3s, T.&P. Sur.	Shut down 3,800 ft.; 1,000 ft. oil in hole.

(Continued on Page 114)

COMPLETIONS IN WEST TEXAS

Crane County

Sun Oil Co.'s No. 1 First National Bank of Hillsboro, Tex., dry and abandoned, total depth 3,309 feet.

Crockett County

Gorden Schaul's No. 1 Benscorew estate, location abandoned.

Fisher County

Midwest Exploration Co.'s No. 1 Decker, top pay 3,236 feet, initial production 250 bbls., total depth 3,259 feet.

Glasscock County

Humble Oil & Refining Co.'s No. 1 Arrington, top pay 2.285 feet, initial production 800 bbls., total depth 2,300 feet. Magnolia Petroleum Co.'s No. 2 Magnolia-Roberts, total depth 1,930 feet, plugged back to 1,845 feet, shot 60 quarts from 1,821-45 feet, initial production 8 bbls.

Irion County

Straughn & Texannati Oil Co.'s No. 3 Nutt, total depth 1,447 feet, plugged back to 1,445 feet, top pay 1,440 feet, initial production 60 bbls.

Pecos County

Cardinal Oil Co.'s No. 3 Tippett, top pay 409 feet, initial production 30 bbls., total depth 420 feet.

Ector County

Gulf Production Co.'s No. 4 University, top pay 3,490 feet, increased to 3,505 feet, initial production 385 bbls., total depth 3,580 feet.

RUNS THROUGH TRUNK LINES

Company, size, location—	Bbls.
Atlantic, 10", Houston	30,588
Gulf, 10", Ranger	37,284
Humble, 2-8", San Angelo	32,640
Humble, 10-12", Station "A"	50,711
Illinois, 2-8", Del Rio	20,552
Magnolia, 8", De Leon	20,142
Pasotex, 8", El Paso	12,784
Shell, 10", Healdton	34,844
Shell, 10", Houston	24,369
Texas, 12", Houston	18,571
Total	292,485

RUNS TO WEST TEXAS REFINERIES

	Bbls.
Amarillo Refining Co., Pyote	None
Big Spring Refining Co., Big Spring	1,546
Burford Refining Co., Pecos	3,965
Blue Bonnet Refining Co., Wickett	None
Cosden Refining Co., Big Spring	3,064
Col-Tex Refining Co., Colorado	6,500
Great Western Refining Co., Big Spg.	2,809
Humble Oil & Refining Co., McCamey	5,538
Mid-Tex Refining Co., Midland	None
Richardson Refining Co., Big Spring	3,075
Tonkawa Refining Co., Pyote	1,734
Wickett Refining Co., Wickett	170
Total	31,401

TANK CAR SHIPMENTS

	Bbls.
Fox & Thorsen from Mertzon	115
Orient from Hurdle	85
Southern C. O. P. Co. from Wickett	8,478
American from Pyote	12,077
Total	20,755

Total daily av. from distribution	344,641
Total daily av. production (including Lea County, New Mexico)	326,749
Daily average from storage	17,892

North Texas - Panhandle Handicapped

Drouth, Proration and Lack of Pipe Line Connections Curtailed Activities. Possible New Area Indicated in Carson County

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Aug. 25.—Drouth, proration and lack of pipe line connections united to curtail activities in the Panhandle, Wichita Falls and Ranger districts during the past week. Several locations were staked in different counties of the various districts, but few in comparison with the number which has been the rule for the past few months.

Gray County recorded nine completions this week, Phillips Petroleum Corp.'s No. 2-A Joe Dan making the largest initial production. This well was formerly completed in September, 1929, at a total depth of 2,970 feet, but was deepened to 3,020 feet, topping a second pay at 3,016 feet, increasing the production. The 3,600 bbls. was made on a gas lift.

The Texas Company's No. 5 Bowers, another well which was formerly completed in 1929, May 18, at 2,902 feet for 1,076 bbls., was deepened, topping another pay at 2,950 feet and registering 900 bbls. for a second initial gauge.

These two wells have both been making but a small amount of oil per day, and the deepening proved extremely successful, although the wells will now have to be shut in because of proration.

New Area in Carson

Rieger and Steckoll's No. 1 Martin in Section 90, Block 70, I.&G.N. Survey, severmal miles southeast of the Empire-Fields Pool, which is west of White Deer in Carson County, encountered an oil pay at 2,960-70 feet and is spraying oil with about 20,000,000 feet of gas, the oil estimated at from 50 to 75 bbls. per day, and promises another producing area for this county and district.

Frank Butler and others' No. 1 Frick, about 10 miles northwest of New Castle and 2 miles north of Tower and McKanna's No. 1 Jeffrey, in the S half of the NE of Section 31, T.E.&L. Survey, is showing up for an extension well from the shallow sand encountered in this area, top of the pay logged at 640 feet and total depth at 650 feet. Tower-McKanna's No. 1 Jeffrey opened up a new area last week when it topped the shallow sand at 749 feet and started swabbing 8 bbls. of oil in three hours, and the new Frick well will probably extend the production northwest from the Jeffrey well, although shallow sands in this county are treacherous, and will not always produce as expected, dry holes marking offsets from good producers, and vice versa.

Cooke County Test

One mile southwest of Hood in Cooke County, Deep Rock and others' No. 1 Felker, 150 feet from the northeast of the west 80 acres of a 128-acre farm in the S.C. Clements Survey, Abstract 273, encountered sandy lime at 1,478-87 feet, and an oil sand at 1,487-92 feet. Six inch casing was set at 1,478 feet and the owners are now testing. This test is about 2 miles west of the same operator's small producer in the Nail Survey, and may extend production in that direction. Gulf Production Co.'s No. 1 Donald, in the Guffey Survey, southwest of this test, is another test in this area which encountered a good showing. It is drilling below 1,450 feet.

Ranger district operators have been holding proration meetings this week preparatory to the meeting at Austin today, and it is believed that most of the areas in that district will be prorated without much trouble, although marginal wells are not to be overlooked in the curtailment scheme, and small wells will not be cut to the point where it will be profitless to produce them.

The Eastland Pool, Coleman County, is decreasing rapidly in producing, although being repressured a long time. Production per company in the pool is as follows: Eastland Oil Co., 214 bbls.; Permian Oil Co., 113 bbls.; Magnolia Petroleum Co., 183 bbls.; Midwest Refining Co., 12 bbls.; Levi Smith, 220 bbls.; Diana Oil Co., 13 bbls.; Tower and McKanna, 75 bbls.; a total of 830 bbls. from 56 wells.

The George Pool, Brown County, is on a gradual decline since repressuring, and is now producing around 312 bbls. per day.

COMPLETIONS IN PANHANDLE DISTRICT
Week Ending August 23

Carson County

Danciger Oil & Refining Co.'s No. 1 Block, top pay 3,020 feet, shot with 180 quarts from 3,020-77 feet, initial production 100 bbls., total depth 3,077 feet. Denson and others' No. 1 Cobb, top pay 2,995 feet, initial production 50 bbls., total depth 3,026 feet. Suloch Oil Co.'s No. 1 Bost, top pay 2,700 feet, plugged back to 2,960 feet, top pay 2,700 feet, shot with 400 quarts from 2,700-2,960 feet, initial production 25,000,000 feet of gas, total depth 3,240 feet. Texas Interstate Pipe Line Co.'s No. 1 Burnett (Section 77), initial production 37,000,000 feet of gas from 2,263-2,650 feet, total depth 2,765 feet. Texas Interstate Pipe Line Co.'s No. 1 Sanford, location abandoned. Gulf Production Co.'s No. 1-B Burnett, top gas sand 2,435 feet, initial production 31,000,000 feet of gas, total depth 2,845 feet.

Gray County

Delmar Oil Co.'s No. 1 Smith, top pay 3,156 feet, shot with 120 quarts from 3,156-3,239 feet, initial production 335 bbls. after shot, total depth 3,239 feet. Dixon Creek Oil Co.'s No. 4 Horrah, top pay 3,160 feet, shot with 200 quarts from 3,160-3,210 feet, initial production 405 bbls., total depth 3,220 feet. Empire Gas & Fuel Co.'s No. 2 Noel, top pay 3,102 feet and 3,155 feet, shot with 100 quarts from 3,155-85 feet, initial production 260 bbls., total depth 3,202 feet. Same company's No. 1 Sailor, top pay 3,145 feet and 3,165 feet, shot with 100 quarts from 3,175-3,210 feet, initial production 480 bbls., total depth 3,237 feet. Same company's No. 2 Shields, top pay 3,165 feet, shot with 80 quarts from 3,165-95 feet, initial production 270 bbls., total depth 3,220 feet. Jewell Oil Co.'s No. 1 Horrah, total depth 3,325 feet, plugged back to 3,295 feet, shot with 140 quarts from 3,261-95 feet, top pay 3,260-70 feet, initial production 50 bbls. Magnolia Petroleum Co.'s No. 1 Wright, top pay 2,752-2,800 feet and 2,900-15 feet, initial production 120 bbls., total depth 2,925 feet. Phillips Petroleum Co.'s No. 2-A Joe Dan, formerly completed on September 14, 1929, at 2,970 feet, deepened to 3,020 feet, top pay 3,016 feet, initial production on gas lift 3,600 bbls. The Texas Company's No. 5 Bowers, formerly completed on May 18, 1929, at 2,902 feet for 1,076 bbls., deepened to 2,975 feet, top pay 2,950 feet, initial production 900 bbls.

Hutchinson County

Phillips Petroleum Co.'s No. 1 Johnson Brothers, (Cart) total depth 3,202 feet, plugged back to 2,942 feet, initial production 32,000,000 feet of gas, gas sand 2,260 feet. Same company's No. 1 Johnson Brothers, (Trammel) total depth 3,250 feet, plugged back to 2,955 feet, gas sand 2,255 feet, initial production 6,000,000 feet of gas. Plains Holding Co. and Hagy's No. 1 Johnson Brothers, location abandoned.

Moore County

Texas Interstate Pipe Line Co.'s No. 1 Zofness, total depth 2,634 feet, plugged back to 2,615 feet, gas sand 2,335-2,600 feet, initial production 25,000,000 feet of gas.

COMPLETIONS IN RANGER DISTRICT
Week Ending August 23

Brown County

Hart's No. 1 Bell, location abandoned. Herring and others' No. 2 Layman, dry and abandoned, total depth 1,356 feet. McCarter and others' No. 1 White, dry and abandoned, total depth 1,129 feet. Glisendorf's No. 2 Wise, dry and abandoned, total depth 585 feet.

Callahan County

Humble Oil & Refining Co.'s No. 2-B Kennard, dry and abandoned, total depth 1,650 feet.

Shackelford County

Magnolia Petroleum Co.'s No. 1 Gorsuch, dry and abandoned, total depth 1,900 feet. Skelly Oil Co.'s No. 7 Mathews, top pay 1,109 feet, initial production 20 bbls., total depth 1,125 feet.

Coleman County

Gibson, Payne and Clark's No. 1 Rogers, dry and abandoned, total depth 2,063 feet.

Palo Pinto County

Root & Rhode's No. 2 Costello, top pay 1,390 feet, initial production 6 bbls., total depth 1,417 feet.

Stephens County

O. F. Striplin's No. 1 Harris, dry and abandoned, total depth 2,190 feet. Texas Pacific Coal & Oil Co.'s No. 1 Winston, total depth 4,800 feet, plugged back to 3,985 feet, shot with 15 quarts from 3,973-88 feet and 15 quarts from 3,963-78 feet, initial production 250,000 feet of gas with 420 pounds back pressure.

NORTH TEXAS PRODUCTION
Week ending August 23

Panhandle District—	Bbls.
Carson County	8,500
Hutchinson County	20,301
Gray County	69,385
Moore County	329
Potter County	11
Wheeler County	565
Total this week	99,091
Total last week	99,710
Decrease	619
Wichita Falls District—	
Archer County	16,815
Baylor County	905
Clay County	691
Cooke County	3,201
Foard County	180
Jack County	2,520
Haskell County	55
Montague County	6,791
Throckmorton County	760
Wilbarger County	22,680
Wichita County	25,173
Young County	14,585
Total this week	94,356
Total last week	94,878
Decrease	522
Ranger District—	
Brown County	6,017
Callahan County	3,199
Coleman County	2,865
Comanche County	1,180
Palo Pinto County	523
Eastland County	4,423
Shackelford County	7,055
Stephens County	5,585
Total this week	30,847
Total last week	30,752
Increase	95

NORTH CENTRAL TEXAS
Week Ending August 23

Archer County

Reese L. Hayes' No. 1 Bearden, oil sand 1,075-80, 1,080-85 feet, initial production 18 bbls., total depth 1,085 feet. F. P. Hyne's No. 1 Richardson, oil sand 1,173-78 feet, initial production 65 bbls., total depth 1,178 feet. Pois & Schultz's No. 3 Green, oil sand 1,119-41 feet, initial production 74 bbls., total depth 1,141 feet. Underwood Drilling Co. and others' No. 6 Andrews, dry and abandoned, total depth 980 feet.

Cooke County

S. B. Owen's No. 1 Stark, location abandoned. Deep Rock Oil Co.'s No. 1 Lawson, oil sand 1,308-21 feet, initial production 180 bbls., and 45 bbls. of sulphur water, total depth 1,331 feet.

Denton County

Owen and Sloan Oil Co.'s No. 1 Light, location abandoned.

Foard County

California Oil Co.'s No. 1 Nichols, dry and abandoned, total depth 3,726 feet.

Wilbarger County

Staley & Wynne Co.'s No. 4 Waggoner, top pay 2,470 feet, initial production 45 bbls., total depth 2,481 feet.

Wichita County

Arkansas Fuel Oil Co.'s No. 38 Kemp and Kempner, total depth 1,666 feet, plugged back to 1,504 feet, initial pro-

(Continued on Page 76)

WILDCAT OPERATIONS IN TEXAS PANHANDLE

Week Ending August 25

CARSON COUNTY

Company, well, farm name, section and block—	Remarks—
[illegible] Sims, 2,310 ft. N, 990 ft. E. N½, Sec. 12, Blk. 7, I.&G.N. Sur.	Location.
Gibson Oil Corp.'s No. 1 Moore, 990 ft. N, 330 ft. E, N½ SE, Sec. 20, Blk. 7, I.&G.N. Sur.	Fishing 3,335 ft.
North American Oil Co.'s No. 1 Burnett, C NW, Sec. 97, Blk. 4, I.&G.N. Sur.	Rigging up.
North American Oil Co.'s No. 1 Burnett, C SE, Sec. 98, Blk. 4, I.&G.N. Sur.	Rigging up.
Reiger & Steckoll's No. 1 Martin, 330 ft. N and W, SW, Sec. 90, Blk. 7, I.&G.N. Sur.	12,000,000 ft. gas 2,815-2,910 ft.; S.D. 2,970 ft.
Shamrock O. & G. Co.'s No. 1 Duncan, 330 ft. S and W, NE, Sec. 5, Blk. 7, I.&G.N. Sur.	Set 12-in. csg. 493 ft.
Sweeney et al's No. 1 Locke, 164 ft. N and W 40-ac. tr. along R.R. in Sec. 57, Blk. 7, I.&G.N. Sur.	S.D. 1,000 ft.
Texas Interstate P. L. Co.'s No. 1 Burnett, C SW, Sec. 6, Blk. 5, B.&B. Sur.	Drlg. 2,080 ft.

CHILDRESS COUNTY

C. L. Sloane et al's No. 1 B. P. Smith, Sec. 49, F. P. Knott lands	T.D. 5,000 ft.

COLLINGSWORTH COUNTY

Dixon et al's No. 1 Bell, 330 ft. N, 1,320 ft. W, Sec. 102, Blk. 21, H.&G.N. Sur.	Location.
Shoupe Bros.' No. 1 Aldus, 410 ft. N, 330 ft. E, Sec. 96, Blk. 16, H.&G.N.R.R. Sur.	Show oil and gas 1,678 ft; S.D. 3,155 ft.

DONLEY COUNTY

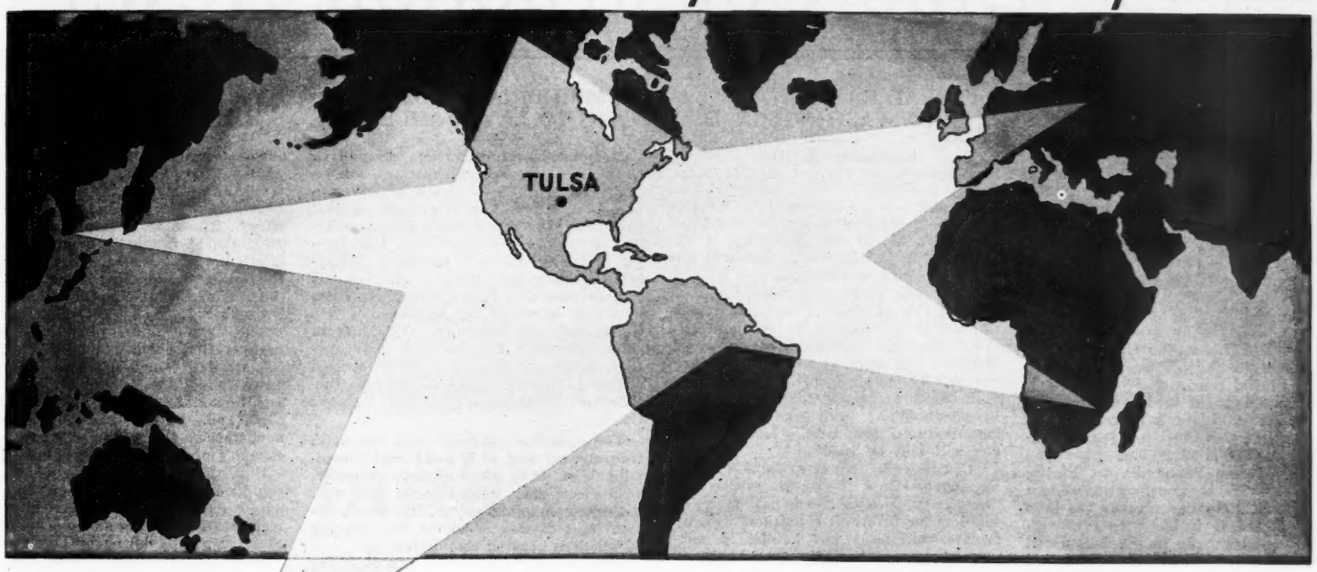
Blue Bonnett Oil Co.'s No. 1 Ball, 1,075 ft. N line, 985 ft. E line, Sec. 22, Blk. E, D.&P.R.R. Sur.	T.D. 3,006 ft.; contract depth.

GRAY COUNTY

Amalgamated German-American Oil Co.'s No. 1 Webb, 330 ft. S and W, E½ NW, Sec. 12, Blk. A-9, H.& G.N. Sur.	C.O. 1,500 ft.
Anderson & Bean's No. 1 Thompson et al, 330 ft. S and W, NW, Sec. 126, Blk. 3, I.&G.N. Sur.	Rigging up.
Atlantic Oil Prod. Co.'s No. 1 Reynolds, 330 ft. N and W, NE SE, Sec. 84, Blk. 3, I.&G.N. Sur.	Drlg. 500 ft.

(Continued on Page 116)

Wherever the boundaries of production may extend



TULSA *will always be the* Oil Capital of the World

Tulsa has more than a dominant area of production to support her supremacy in the oil world — more than her giant manufacturing plants and supply houses —more than her great companies, powerful in the industry. Tulsa has the unconquerable backing of *tradition*— that made a Rome, a Paris and a Vienna, in each one's sphere.

In Tulsa, the greater age of petroleum had its start. Wealthy and colorful figures in the industry built their careers here. Old timers, strong in the legend of the field, hand down stories of the "Magic City" which tell the main history of petroleum. In the oil fields of Burma, Rumania, South America or Japan, he is a welcome stranger who hails from Tulsa — and more often he is not a stranger.

Among the leading oil companies who maintain headquarters in Tulsa are Mid-Continent, Barnsdall, Independent, Skelly and Mid-Kansas (formerly Transcontinental). Tulsa is world headquarters for oil industry equipment buying, with approximately 300 manufacturers and distributors of oil field and refinery equipment doing a yearly volume of business approaching $400,000,000.

The International Petroleum Exposition, official educational and sales event of the industry, wins a warm response each year from thousands of oil men who come to Tulsa from every oil-producing area in the world. In addition to the Exposition, a permanent exhibit of Tulsa made and distributed oil equipment is maintained by the Tulsa Purchasing Agents Association, numbering members from all the important companies in the Mid-Continent Field and constituting the greatest single factor in the industry for controlling the purchase of supplies and equipment. The Western Petroleum Refiners' Association, the Mid-Continent Oil and Gas Association, The Association of Natural Gasoline Manufacturers, American Association of Petroleum Geologists and other leading national oil and gas associations have their headquarters in Tulsa.

Additional factors, such as geographical location in respect to the nation, fuel and labor, phenomenal water supply and other advantages, have made Tulsa not only a great Oil Capital but a great city. You will find them pointed out to you in our new 100-page Industrial Survey of Tulsa, which will be sent to you upon receipt of your request. The Industrial Department of the Tulsa Chamber of Commerce is ready to compile for you additional information on special subjects, without obligation. Address Dept. P, Tulsa Chamber of Commerce.

TULSA

"Oil Capital of the World"

Pipe Line Construction News

LINCOLN FRANCHISE AIDS NEBRASKA LINE

CHICAGO, Aug. 25.—Granting of a 10-year franchise to the Iowa-Nebraska Light & Power Co., a subsidiary of the United Light & Power Co., to furnish natural gas to the city of Lincoln, Neb., is an important factor in the development of United Light's natural gas business. The favorable action on the Lincoln franchise, which was put to a referendum vote and carried by a majority of 10,081 to 5,173, follows the defeat of a request by the Lone Star Gas Corp. for a franchise to furnish natural gas to Council Bluffs, Iowa.

The United Light & Power Co., the North American Light & Power Co. and the Lone Star Gas Corp. are jointly constructing a 500-mile 24-inch pipe line from the Texas Panhandle to Plattsmouth, Neb. The northern section of this line, of about 250 miles, already has been completed, and it is likely that the remainder will be ready in the fall. Until the southern half is completed, United Light has arranged to use gas furnished by the Illinois Power & Light Corp., which has a 16-inch gas line running parallel to that of United, so that a switch from manufactured gas to natural gas should be made in Lincoln within the next few weeks.

With completion of the entire pipe line, the volume of gas sold by the company should show a substantial increase, as United has obtained franchises in cities it did not service heretofore, as well as in majority of cities to which it now furnishes manufactured gas. Lower natural gas rates will also be a factor in increasing volume.

ELECTRIC MOTOR INSTALLATION

Eighteen 800 horsepower synchronous motors, the largest electric motors ever applied to pipe line pumping, and two 450 horsepower synchronous motors will drive the centrifugal pumps moving the oil in the new pipe line of the Texas Empire Pipe Line Co. These pumps will deliver, through a 10-inch pipe, 30,000 bbls. of oil per day from Chetopa and Sand Springs, Okla., through Cole Camp and Centralia, Mo., to the refineries at Bayless and Broadwell, Ill. The motors and complete control equipment for them are supplied by the Westinghouse Electric & Manufacturing Co.

BUYS MISSION VALLEY CONTRACT

The American Utilities & General Corp. has acquired an interest in the Missouri Valley Gas Co., which controls large natural gas holdings in Stevens County, Kansas. The properties are to supply under long-term contracts most of the requirements of the pipe line under construction by the Missouri Valley Pipe Line Co., which will serve cities in Iowa and Nebraska. Missouri Valley Gas is controlled by the Moody-Seagraves Co.

PANHANDLE ILLINOIS LINE

The Panhandle Illinois Pipe Line Co. has been incorporated in Illinois to own and operate a natural gas pipe line across Illinois. It is a subsidiary of the Panhandle-Eastern Pipe Line Co., which is controlled by the Missouri-Kansas Pipe Line Co.

LOUISIANA-MEMPHIS LINE

Construction of the Greenville-Greenwood pipe line to conduct natural gas from the main Louisiana-Memphis natural gas line of the Memphis Natural Gas Co. to several cities and towns in Mississippi has been begun. The gas company expects to market more than 1,000,000,000 feet of natural gas annually in the territory along the new line.

NATURAL GAS LINE TO WASHINGTON, D. C.

By Charles E. Kern

Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Aug. 25.—Natural gas is to be brought into this city before the end of the present year, George A. G. Wood, president of the Washington Gaslight Co., has told the public utilities commission.

A subsidiary of the Columbia Gas & Electric Co. will supply the natural gas, which may be brought by pipe line from West Virginia where there is a big supply. The price at which the natural gas will be supplied will be a little less than 36.03 cents per 1,000 feet, which, President Wood said, was the cost of manufactured gas here. Manufactured gas will still be used.

"Contrary to popular opinion," said President Wood, "natural gas is not necessarily cheaper than gas manufactured under favorable conditions with up-to-date equipment but having in mind our whole situation we thought it advisable to make this natural gas arrangement."

CONTRACTS AWARDED FOR ELECTRIC WELDING

The Welding Engineering Co. of Bartlesville, Okla., has been awarded contracts for electric welding the following pipe lines—all of the work is now under construction: Continental Construction Corp., 140 miles 24-inch—part of Panhandle-Chicago gas line; general contractors, Bechtel & Kaiser. Cities Service Gas Co., 32 miles 20-inch, Dillworth, Okla., to Wellington, Kans.; general contractors, Sheehan Pipe Line Construction Co. Missouri-Kansas Pipe Line Co., 15 miles 18-inch and 8 miles 20-inch, in Texas Panhandle; general contractors, Williams Brothers. United Gas Co., 44 miles 18-inch and 15 miles 16-inch. Refugio, Tex., to Kennedy, Tex.; general contractor, F. C. Youmans. United Gas Co., 15 miles 16-inch and 15 miles 12-inch, Converse, Tex., to San Marcus, Tex.; general contractors, the Sexton Corp.

OPPOSE NEW BIG HORN LINE

CASPER, Wyo., Aug. 23.—The proposed oil pipe line to be laid from the Big Horn Basin Fields in Wyoming into Montana, for carrying crude oil to the refineries in Montana, is finding obstacles other than natural ones. The Illinois Pipe Line Co., the Burlington Railroad and the Midwest Refining Co. have raised objections to the laying of this pipe line.

LE FORS LINE

FORT WORTH, Tex., Aug. 25.—The Phillips Petroleum Co. is laying 22 miles of 6-inch gas line from its gasoline plant in the Le Fors Pool, Gray County, Texas, to Mobeetia in Section 45, Block A-5, Wheeler County, to tie into the Cook Utilities Co. gas line at that place, and carry residue gas from the plant to this line for domestic and commercial purposes.

CONTRACTS AWARDED

The Prescott Co. of Menominee, Mich., has been awarded the contract for 42 horizontal duplex reciprocating pumps by the Great Lakes Pipe Line Co., which is constructing a gasoline line from Oklahoma to Milwaukee. The pumps will be especially equipped for pumping gasoline having special stuffing boxes and high-pressure lubricators for the plungers. The Winton Co. of Cleveland was given the contract for 42 Diesel engines for the same line. The Prescott Co. was given an option on an additional 20 pumps and the Winton Co. on an additional 20 Diesel engines for the same line.

MEMPHIS NATURAL GAS TO LAY 50-MILE LINE

Memphis Natural Gas Co., through D. C. Shaffer, general manager, announces commencement of the work of laying a new 50-mile pipe line to conduct natural gas from its main Louisiana-Memphis line to various communities in Mississippi, including Leland, Indianola, Morehead, Ittabena and Greenwood. Memphis Natural Gas Co., 44 per cent of the stock of which is owned by Appalachian Gas Corp., will supervise the engineering in connection with the new line, while actual construction work is being carried out by Phoenix Utility Co., the construction unit of Mississippi Power & Light Co.

The new line connects with the main transmission line at a point near Greenville, Miss. It is 8⅝ inches in diameter, with electrically welded joints and with a Dresser coupling every 500 feet. A 30-foot right of way is owned, the clearing of which is nearing completion.

The terrain traversed is undulating delta land with no unusual construction features, but because of lowness and slight drainage, and a high average rainfall, a deep, well-covered, thoroughly sound line is required. The line will cross the Bogue Phalilah, Sunflower and Yazoo Rivers, low during certain seasons of the year, but which, like all southern rivers in the Mississippi basin, carry an enormous amount of water during the late winter and early spring.

Multiple-crossings will be used at the rivers, consisting of two 6-inch lines anchored with 750-pound river clamps. Each pair of lines will be tied into the main line on either side of the river by headers, and each line will be equipped with gate valves.

Memphis Natural Gas Co. expects to market over 1,000,000,000 cubic feet of natural gas annually in this territory, with corresponding increases as growth develops.

Part of the cost of the new line will be borne by Memphis Natural Gas Co. and part by Mississippi Power & Light Co. Distribution systems in the several communities to be served will be constructed and operated by Mississippi Power & Light Co.

MOORE COUNTY LINE

FORT WORTH, Tex., Aug. 25.—The Barnsdall Oil Co. and Operators Oil Producing Co.'s lease on the Jones Ranch in Section 164, Block 3-T, T.&N.O. Survey, Moore County, recently opened by a wildcat discovery, is to have a 6-inch pipe line outlet, laid by the Phillips Petroleum Co. from the eastern side of the county in the Robinson Survey. The Phillips Petroleum Co. has contract for the production from the discovery on the Jones land.

TEXAS GAS LINES

The South Plains Pipe Line Co. has completed laying a gas line from Hereford to Dimmit, Tex., and the West Texas Gas Co., which supplies the towns of this district with domestic and commercial gas, is laying gas mains in the latter place, to be in operation about the middle of October.

PIPE CONTRACT LET

NEW YORK, Aug. 25.—The Central Public Service Corp. has placed an order for 35,000 tons of 18-inch electric welded pipe with the Youngstown Sheet & Tube Corp. The order involves more than $2,500,000 and is to equip a 260-mile natural gas pipe line from eastern Kentucky to central Indiana to serve industrial consumers.

NEW PUMP STATIONS ON TEXAS-EMPIRE LINE

Construction work is well under way on eight new pump stations along the trunk line of the Texas-Empire Co. from Lima, Okla., to the Chicago refinery territory. The new stations are to supplement the 11 pump stations now in operation and will increase the capacity of the oil pipe line approximately 50 per cent. The estimated completion date is November 1.

The Texas-Empire pipe line has been in operation since October 1, 1929. It is now delivering 50,000 bbls. of crude oil daily to Lawrenceville, Stoy, Lockport and Lamont in Illinois and to East Chicago, Ind. Following completion of the new stations the system will have a daily capacity of approximately 74,000 bbls.

Six of the new stations are being equipped with electrically driven centrifugal pumps, one with electrically driven reciprocating pumps and one with reciprocating pumps driven by Diesel engines. The six to be equipped with electrically driven centrifugal pumps are: Sand Springs, Okla.; Chetopa, Kans.; Cole Camp and Mexico, Mo., and Bayliss and Broadwell, Ill. The Diesel station will be at Sheldon, Mo., and the one at Fairbury, Ill., is to be equipped with electrically driven reciprocating pumps.

Equipment for the new stations includes 18 No. 8 four-stage centrifugal oil line pumps which are being manufactured by the Worthington Pump & Machinery Corp. The pumps are designed to force a maximum of 94,000 bbls. daily through a station.

NEW LINE COMPLETED TO MEXICAN BORDER

Texas Gas Utilities Co., subsidiary of Appalachian Gas Corp., announces the completion of the Rycade Field-Eagle Pass line, work on which was started late in July. The line traverses the new $6,000,000 Maverick County irrigation project en route to Eagle Pass, continuing to the middle of the International Bridge, where present plans call for the delivery of gas to a Mexican distributing company for transmission to industrial and domestic consumers in Piedras Negras, Mexico. The distribution system in Eagle Pass, now nearing completion, will be operated by Texas Gas Utilities Co.

Completion of the Eagle Pass line marks the final step in the second section of Texas Gas Utilities Co.'s main pipe line construction program. The first section, the Rycade Field-Devil's River pipe line, over 63 miles long, was completed and delivering gas in a little over 60 days.

There remains to be completed the Crystal City and Carrizo Springs distribution systems and "Winter Garden" extensions. Work on the Crystal City pipe line will commence shortly.

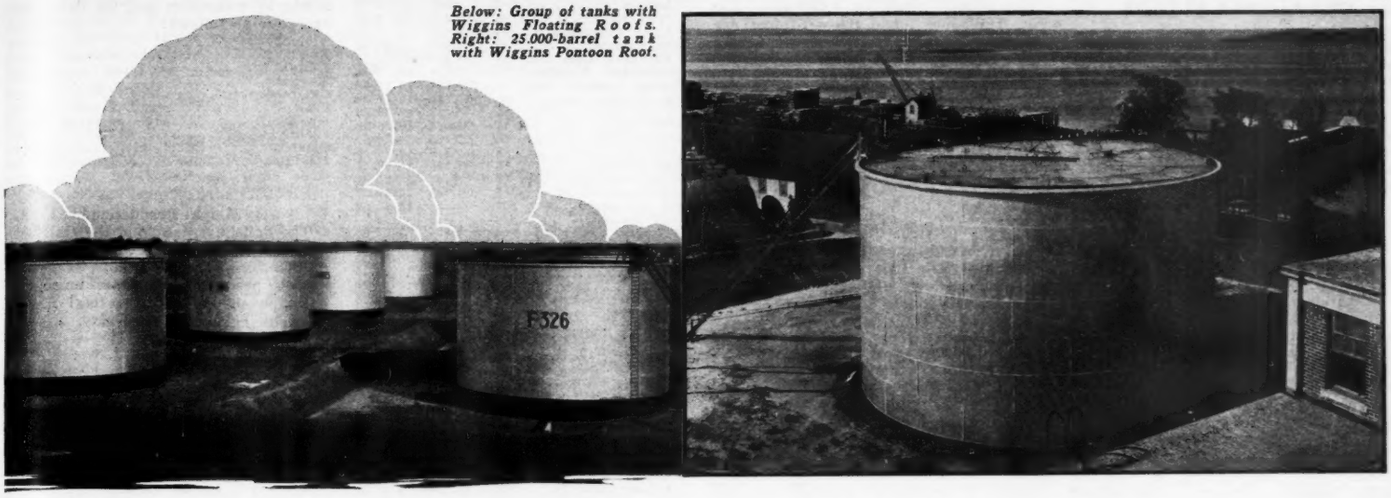
INCREASE IN N. MEX. CAPACITY

To permit The Texas Company to run more of its oil being produced in New Mexico outside of the Hobbs Field, the Texas Pipe Line Co. is looping its 6-inch line from Jal, N. Mex., back to its junction with the Shell Pipe Line Co.'s 8-inch line from the Hobbs Field, a distance of about 21 miles, with an 8-inch line.

This added capacity will permit The Texas Company to deliver about 7,000 bbls. more oil from its wells in the Lynch district, as well as continue to handle the 10,000 bbls. per day which the Texas Pipe Line Co. has contracted to handle for the Shell Pipe Line Co. out of Hobbs Pool.

The Texas Pipe Line Co.'s station near Jal, N. Mex., is located in Section 5-26s-37e, in Lea County.

Below: Group of tanks with Wiggins Floating Roofs. Right: 25,000-barrel tank with Wiggins Pontoon Roof.



Buying tanks and platework as you would service for your car

LEADING oil companies have found it advantageous to purchase storage tanks, roofs and steel platework from one fabricator . . . just as you find it desirable to buy gasoline, oil, and other supplies in one service station instead of driving from one to another.

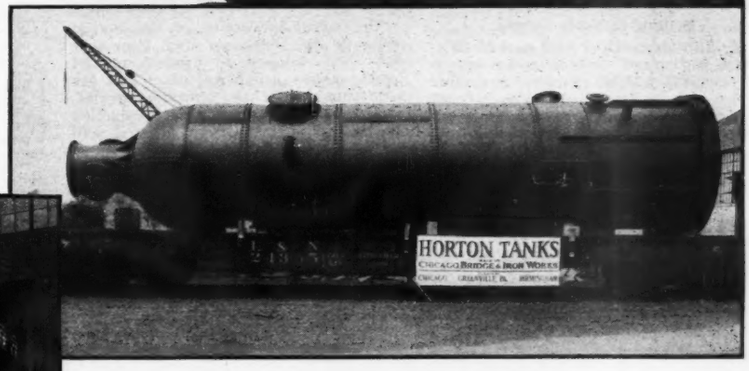
One of the companies following this plan bought, for example, this range of products:

Wiggins Floating Roofs	Elevated Water Tanks
Wiggins Breather Roofs	Storage Tanks
Wiggins Pontoon Roofs	Cylindrical Tanks
Hortonspheres (liquid)	Acid Storage Tanks

Our extensive fabrication facilities permit us to ship from Chicago, Ill.; Greenville, Pa.; Birmingham, Ala.; or Bridgeburg, Ont. We make practically all kinds of oil industry platework . . . . in the tank division alone we furnish Horton field erected tanks in all capacities from 500 bbls. up. These tanks are made to our standard designs, to A.P.I. specifications, or to customers' special designs—equipped with steel cone roofs or with Wiggins Roofs for stopping evaporation and fire loss. We maintain our own erection crews. Other tank work includes cylindrical tanks (from Birmingham and Bridgeburg, Ont.) and elevated water tanks.

Address our nearest office for estimates on any work you may have in mind and for complete information.

Below: 10,000-barrel Hortonspheroid, and riveted-up towers ready for shipment.



CHICAGO BRIDGE & IRON WORKS

Dallas	3341 Magnolia Bldg.	Cleveland	2204 Union Trust Bldg.
Birmingham	1536 Fiftieth St., N.	New York	3147 Hudson Terminal Bldg
Atlanta	2154 Rhodes-Haverty Bldg.	Philadelphia	1615 Jefferson Bldg.
Houston	1119 Electric Bldg	Boston	1517 Consolidated Gas Bldg
Chicago	2128 Old Colony Bldg.	San Francisco	1054 Rialto Bldg.
Detroit	1514 Lafayette Bldg	Seattle	4323 Smith Tower

HORTON TANKS

ROOFS AND PLATEWORK

OKLAHOMA FIELDS

(Continued from Page 51)

casing and efforts were being made to place a master gate.

Blackwell Oil & Gas Co.'s No. 1 Knecht, NW cor. SW SE, Section 21-18-4w, Logan County, had a hole full of water in the Wilcox sand at 6,200-02 feet. Other wells in the vicinity are producing from the 4,000-foot horizon.

An Important Test

Continental Oil Co.'s No. 1 Meisner, SE cor. SW NW, Section 10-20-4w, southeastern Garfield County, was drilling in the Wilcox sand at 5,906 feet with nothing showing. The well made 90 bbls. in 24 hours from the Simpson sand. It is the second test in the area which was opened by the Barnsdall Oil Co. and Continental Oil Co.'s No. 1 Brown, in Section 9-20-4w, which made 850 bbls. the first 24 hours and is under proration.

Deep Pay in Old Pool

Atlantic Oil Producing Co.'s No. 1 Mackey, NW cor. SW SE, Section 36-12-10, Okfuskee County, is the second well to be deepened in the area to the new pay horizon in the Lyons-Quinn sand for increased production. The well flowed and swabbed 200 bbls. the first 24 hours after deepening. The production was only 15 bbls. before it reached the second pay. The old total depth was 3,010 feet and the total depth is now 3,057 feet.

Since the showings of oil and gas in the northwestern part of Oklahoma practically every major oil company has crews of geologists at work in that area. The Sinclair Oil & Gas Co.'s two wells are the direct cause of this activity. One of the tests was in Harper County and the other in Woods County. Both of these tests had showings of oil and gas at various depths. The Woods County well is believed to have found the Wilcox sand, the first test in this part of the State to locate the formation. The general territory south and west of the Sinclair company's wells and the territory extending into the Oklahoma Panhandle is getting a thorough check. It is reported 18 oil companies have 97 geological parties working in the area, among them being the Shell Petroleum Corp., Gypsy Oil Co., Indian Territory Illuminating Oil Co., Empire Oil & Refining Co., Carter Oil Co., Mid-Kansas Oil & Gas Co., Pure Oil Co., Dixie Oil Co., Producers & Refiners Corp., Deep Rock Oil & Refining Co., Mid-Continent Petroleum Corp., Prairie Oil & Gas Co., Amerada Petroleum Corp., Sinclair Oil & Gas Co., Continental Oil Co., Atlantic Oil Producing Co., Phillips Petroleum Co. and Independent Oil & Gas Co.

Drilling in Noble County

Rain in the north central part of Oklahoma has caused drilling operations to be resumed in Noble County. A number of locations were shut down on account of the water shortage. With water available work was started at four locations recently staked. Barnsdall Oil Co.'s No. 1 Mitch, NW cor. SW, Section 12-21-1w; Empire Oil & Refining Co.'s No. 1 Fryer, NW cor. NE, Section 4-21-1w; Twin State Oil Co.'s No. 1 Russell, NE cor. SW, Section 4-20-1w, and Prairie Oil & Gas Co.'s No. 1 Smyser, NE cor. SE, Section 5-20-1w.

Shell Pipe Line Corp. is building a 3-inch line from its main line to the Washoma Oil Co. and others' No. 1 Wentz, NW cor. SW, Section 22-22-1, northeast of Perry, Noble County. The well was completed last December for 150 bbls. a day from the Layton sand at a total depth of 3,380 feet. The company has approximately 1,700 bbls. of storage oil on the lease.

In West Chandler

Magnolia Petroleum Co. completed another well in the West Chandler Pool, in Lincoln County, No. 3 Wagner, NW cor. NE, Section 17-14-4, had Simpson sand at 5,158-63 feet, where it flowed 930 bbls. the first 18 hours, before being pinched to 100 bbls. a day under the proration plan. The oil is cut about 2 per cent from water. It is the south offset to the same company's No. 2 Recker, SW cor. SE, Section 8-14-4, which was completed last April for 450 bbls. a day from a total depth of 4,670 feet. The No. 3 Wagner found the 4,670-foot dry when drilled. All the producers in the West Chandler Field are pinched to 100 bbls. a day under the proration agreement among the operators.

Greater Seminole Production

With production from the large pools in the Greater Seminole area being curtailed production is being held at steady levels. The gauges for the week ending August 18 show a decline of 22,000 bbls. from the previous week. The Seminole area averaged 138,021 bbls. from 1,897 wells. The daily average gauges from the different pools in the Greater Seminole area were as follows:

Pool—	Wells	Bbls.
Little River	375	22,378
East Little River	84	10,879
Carr City	60	5,665
Maud	139	3,844
Mission	100	6,989
Bowlegs	280	14,232
Earlsboro	293	22,745
South Earlsboro	28	9,881
East Earlsboro	154	16,458
Seminole	266	15,125
East Seminole	33	2,306
Searight	85	7,519
Allen	271	15,167
Asher	26	1,238
West Asher	21	6,259
Konawa	98	15,930
St. Louis	486	25,672
Sasakwa	53	4,998
Total	2,852	207,285

Seminole Oil Shipments

The pipe line shipments from the Greater Seminole area show a substantial decline for the week ending August 18 from the previous week. The previous week's gauges showed the new potentials for August. The total shipments from the area were 192,296 bbls. The daily average shipments from the different pools were as follows:

Company—	Seminole	Asher Pearson, St. Louis	Konawa
Barnsdall	1,971	.....	.....
Champlin	5,395	.....	432
Continental	281	.....	.....
Consolidated	.....	1,865	.....
Cosden	3,474	.....	4,410
Deep Rock	3,420	523	.....
Empire	4,928	.....	.....
Gulf	20,021	2,316	761
Independent	....	1,838	.....
Magnolia	7,794	6,952	.....
Oklahoma	22,241	5,230	623
Prairie	11,111	3,808	3,467
Prod. & Refs.	1,370	.....	.....
Pure	4,388	.....	.....
Shell	4,523	486	912
Sinclair	27,066	7,032	3,742
Texas	8,221	2,049	2,549
Tidal	8,732	3,650	.....
White Oak	1,952	.....	.....
Total	136,890	35,749	16,905
Tank cars	2,752		
Grand total	139,642		

Oklahoma City's Shut-In Production

The initial production of the shut-in wells in the Oklahoma City Pool that have been allowed to produce for 24 hours or less as of August 9 and are now shut in for the proration period, was 844,423 bbls. The initial production and the approximate dates each well will be opened for its regular producing period follows:

I.T.I.O.:

Sudik	*1	[1]30,000	.....
Mary Sudik	*4	16,199	8-27-30
Canfield Button	3	[2]6,494	8-26-30
School Land	*2	[3]24,482	8-27-30
School Land	*1	[4]4,734	8-27-30
School Land	*3	[5]67,734	9- 2-30
S. Peterson	*2	[6]6,327	9- 2-30
A. Brokaw	*3	2,855	9- 1-30
C. Trosper	*2	[7]2,385	9- 1-30
Johnson	*5	2,406	8-31-30
Farley	*1	6,408	8-30-30
Mary Sudik	*7	[8]5,169	9- 3-30
Rensimer	*1	[9]1,930	9-14-30
M. Sudik	*8	[10]8,916	9-14-30
H. G. Trosper	*1	[11]7,595	9-14-30
S. Peterson	*2	[12]97,591	9-12-30
E. Trosper	*2	[13]185	9-12-30
Theimer	*5	[14]562	9-12-30
Spillman	*1	10,227	9-26-30
Holmes Gray	*1	[15]4,173	9-26-30
N. Emerson	6	[16]113	9-25-30
Carrico	*1	[17]7,517	9-27-30
N. Emerson	11	[18]699	9-27-30
Jones	*13	36,186	9-28-30
W. J. Phillip	*1	[19]7,586	9-29-30
Jones	*14	[20]562	9-31-30
Corff	*1	[21]917	10- 3-30
Habegger	*1	[22]3,296	10- 4-30
Peterson	*5	[23]3,755	10- 5-30
Phillips	*1	[24]7,586	10- 5-30
Carrico	*1	9,744	10- 4-30
Coppenger	*1	10 010	10- 5-30
Watters	*5	[25]1,544	10- 5-30
M.-K.-T.	*1	[26]3,264	10- 6-30
H. G. Trosper	*3	7,002	10- 6-30
Boulevard	*1	[27]891	10-13-30
Huffman	*1	3,015	10-12-30
Watters	*6	3,362	10-10-30
Lemon	*2	4,502	10- 9-30
Watters	*4	2,703	10- 9-30
H. G. Trosper	*3	14,720	10- 9-30
R. Hemmer	*1	[28]1,340	10-20-30
Ferndale Commun.	*4	[29]5,966	10-20-30
Pasadena Heights	*2	[30]2,626	10-19-30
State Land	*5	[31]3,524	10-18-30
S. Peterson	*6	[32]10,356	10-17-30
C. Trosper	*4	[33]482	10-30-30
Mid Texas	*1	[34]4,864	10-30-30
Coppenger	*5	[35]3,465	10-20-30
Starkey	*1	[36]716	10-30-30
M. Unsell	*3	[37]1,399	10-30-30
Capshaw	*1	[38]740	10-23-30
Habegger	*2	[39]3,036	10-23-30
H. W. Jones	*3	[40]5,885	10-23-30
W. Franklin:			
Wright	*1	5,805	8-27-30
Theimer	*8	[41]20,000	9-29-30
Holder	*1	[42]3,000	10- 6-30
Page	*1	7,209	10- 2-30
Page	*2	262	10-29-30
Theimer	*7	[43]5,077	10-16-30
Theimer	*11	[44]26,528	10-30-30
Lowery	*9	[45]8,756	10-26-30
Cromwell:			
Trosper Park	*6	11,921	8-30-30
Trosper Park	*20	[46]8,726	9-22-30
Trosper Park	*23	14,623	9-22-30
Trosper Park	*24	[47]3,008	9-23-30
Trosper Park	*25	[48]60	10-20-30
Trosper Park	*27	[49]187	10-19-30
Sinclair:			
Donnell	*1	3,060	9-13-30
School Land 54	7	[50]8,000	8-30-30
School Land 54	*13	7,150	8-20-30
School Land 54	*10	17,220	8-30-30
School Land 67	*3	15,940	8-29-30
School Land 54	*16	[51]8,145	9- 1-30
School Land 54	*6	[52]12,000	9-14-30
School Land 69	*1	[53]12,570	9- 2-30
School Land 54	*16	15,545	9- 4-30
School Land	*5	[54]8,808	10-24-30
Vinci	*11	31,290	8-30-30
Vinci	*14	[55]2,225	9-13-30
Vinci	*16	37,905	9-13-30
Vinci	*9	[56]7,075	9- 2-30
Vinci	*6	[57]10,500	10- 1-30
Vinci	*15	[58]175	10-19-30
Vinci	*10	[59]340	10-18-30
Coline:			
Clauer	6	5,596	8-28-30
Clauer	*10	4,496	9- 1-30
Clauer	*9	11,948	9-24-30
Clauer	*13	[60]545	10-10-30
Clauer	*12	1,401	10-18-30
Clauer	*7	[61]968	10-17-30
Olda	*7	[62]1,763	8-28-30
Warren	7	8,826	9-25-30
Slick:			
Classen	*1	[63]1,711	8-29-30
Foote	*1	[64]10,000	8-27-30
G. Milner	*1	[65]9,924	9-14-30
Storie	*1	8,636	9- 3-30
Crawford	*1	13,883	9-28-30
Baker	*4	19,328	9-21-30
Baker	*1	[66]1,428	10- 5-30
Baker	*2	[67]10,250	10-11-30
Milner	2	12,886	10- 2-30
Page	*1	[68]3,433	10-13-30
Page	*2	[69]1,090	10-20-30
Frost Heights	*1	[70]3,937	10-18-30
Frost Heights	*2		
Alexander	*1	[71]330	10-19-30
Campbell	*1	[72]13,875	10-30-30
Foote	*2		
Atkinson	*1	[73]1,340	10-26-30
Trumbley	*1	[74]2,611	10-26-30
Mid-Texas:			
Hiddleston	*1	2,320	10- 2-30
Hall & Briscoe:			
Lindsay	2	[75]944	9- 1-30
Holmes	*3	[76]7,201	10-20-30
Holmes	*2	[77]4,032	10-20-30
Wrightsmith Oil Co.:			
Smith	*1	[78]5,312	9- 2-30
Phillips Pet. Co.:			
Traders Compto	*1	4,055	9-25-30
Prairie:			
Sigmon	*4	7,520	10- 8-30
Sigmon	*5	[79]4,240	10-30-30
Sigmon	*7	[80]2,565	10-24-30
Shell:			
Fgermeyer	*1	[81]2,043	10-10-30
Plains & Denver:			
Boulevard	*1	4,968	10-13-30
Century Pet. Co.:			
Wyatt	1	[82]3,000	10-14-30
Independent:			
Hatcher	*1	5,339	10-18-30
Julian:			
Community	*1	4,364	10-18-30
Hauser	*1	[83]600	10-20-30
Skelly Oil Co.:			
Dillon	*2	[84]640	10-23-30
Amsworth	*4	[85]645	10-30-30
Mabee & Blackstone:			
Harvey	*1	[86]675	10-25-30
Total	130	844,423	

*Wells producing from the Simpson sand. All others are producing from the Arbuckle lime.

[1]Estimated. [2]Thirteen hours. [3]Fourteen hours. [4]Twelve hours. [5]Five hours. [6]Eighteen hours. [7]Sixteen, one-half hours. [8]Seventeen hours. [9]Nineteen hours, 45 minutes. [10]Sixteen hours. [11]One hour, 15 minutes. [12]Twelve minutes. [13]Eleven and one-half hours. [14]Fifteen hours. [15]Twenty-one and one-half hours. [16]Twenty hours. [17]Eighteen, one-half hours. [18]Six hours. [19]Fifteen hours, 40 minutes. [20]Ten and one-quarter hours. [21]Four hours. [22]Eight hours. [23]Eleven hours, 10 minutes. [24]Seventeen hours, 30 minutes. [25]Fourteen and one-half hours. [26]Ten hours, 15 minutes. [27]Twenty-one hours. [28]Thirty minutes. [29]Two hours. [30]Nine hours. [31]Three hours.

These notations indicate the number of hours and wells produced on their initial production test.

Oklahoma City Oil Shipments

The total shipments from the Oklahoma City Field for the week ending August 21 were 530,061 bbls. The shipments by companies and the daily average were as follows:

Company—	Dy. ave.
Empire	20,871
I.T.I.O.	3,948
Magnolia	7,541
Oklahoma	12,964
Prairie	14,435
Sinclair	12,560
Shell	436
Tidal	2,532
Healdton	436
Total	75,723

Actual Production

The daily average from the Oklahoma City Field, for the seven days ending August 25, showing the date, number of barrels produced each day, number of wells on production, and total number of wells completed each day, were as follows:

Date—	Bbls.	Wells prod.	Wells comp.
August 19	110,399	42	433
August 20	85,169	37	437
August 21	122,676	46	440
August 22	152,760	64	441
August 23	95,974	51	447
August 24	137,344	54	451
August 25	120,384	60	455

Carter County

Magnolia Petroleum Co.'s No. 3 Brady, SE cor. SW, Section 13-1s-3w, is a location. No. 1 Hooks, SW cor. SW, Section 13-1s-3w, is a location. No. 2 Hooks, SE cor. SW NE, Section 24-1s-3w, is drilling at 1,900 feet. Wirt Franklin Petroleum Corp. has staked location for No. 3 Hooks, SE cor. NW NE, Section 24-1s-3w. Magnolia Petroleum Co. has staked location for No. 4 Pollock, SE cor. SE, Section 14-1s-3w. Magnolia Petroleum Co.'s No. 1 Brady, SW cor. SE SW, Section 13-1s-3w, has been completed for 76 bbls. in sand 2,244-71 feet, total depth 2,525 feet. Hudson and others' No. 1 Hooks, SE cor. SW SW, Section 13-1s-3w, has been completed for 386 bbls. in series sands 2,247-2,320 feet, broken sand 2,320-50 feet, total depth 2,411 feet. Merrick and others' No. 1 Mitchell, SE cor. NW SE, Section 24-1s-3w, has been completed in sand 2,437-45 feet, total depth 2,660 feet. The Texas Company's No. 3 Eaves, NE cor. SE SW, Section 24-1s-3w, has been completed for 341 bbls. in sand 2,309-2,450 feet.

Hughes County

Iglehart and others' No. 1 McCoy, SE cor. NW, Section 27-9n-10e, is a rig on ground. Pyramid Drilling Co. has rig on ground for No. 1 Foster, C SE SE, Section 11-7-8. Droppleman-Rogers' No. 1 Brown, NW cor. SE NE, Section 17-7-8, is a cellar.

Marshall County

Doss and others' No. 1 McComas, CSL SE SE NW, Section 13-5s-5, is drilling at 300 feet. Hartley and others' No. 1 Cliff, NW cor. SE, Section 26-5s-5, is dry and abandoned at 630 feet. Bilbo Oil Trust Co.'s No. 7 Davis-Sullivan, NE cor. SW NW, Section 30-5s-6, is dry and abandoned at 808 feet. Magnolia Petroleum Co.'s No. 3 Rutland, SE cor. NW, Section 30-5s-6, is dry and abandoned in shale at 725 feet.

Oklahoma County

Indian Territory Illuminating Oil Co.'s No. 3 Lawrence Place, Lot 36, Block 8, CEL W half NE, Section 15-11n-3w, is a location. No. 2 Ivanhoe, SW cor. NE NE, Section 15-11-3w, is a location. Reynolds and others' No. 1 Hasting, CSL SW NW SW, Section 1-11-3w, has been completed for 18,555 bbls. in sand 5,965-6,390 feet, total depth 6,483 feet. Wirt Franklin Petroleum Corp.'s No. 7 Theimer, SW cor. SE, Section 2-11-3w, has been completed for 5,919 bbls. in sand 6,536-70 feet. Anderson-Prichard's No. 2 Gibbons, NW cor. SE NE, Section 2-11-3w, has been completed in sand 5,930-6,004 feet for 12,500,000 feet of gas. T. B. Slick Oil Co.'s No. 1 Frost Heights, NW cor. SE SE, Section 10-11-3w, has been completed for 4,630 bbls. in sands 5,410-6,208 feet and 6,340-6,624 feet. Hall & Briscoe's No. 3 Holmes, NW cor. NE SE, Section 10-11-3w, made 12,927 bbls. and 22,000,000 feet of gas in sands 5,440-6,230, 6,360-6,468 feet. Independent Oil & Gas Co. and Sinclair Oil & Gas Co.'s No. 1 Hatcher, SE cor. NE NE, Section 10-11-3w, has been completed for 5,339 bbls. in sand 6,340-6,498 feet. Indian Territory Illuminating Oil Co.'s No. 1 Hammer, NW cor. SW, Section 11-11-3w,

made 1,754 bbls. in sand 6,238-80 feet, total depth 6,618 feet.

Indian Territory Illuminating Oil Co.'s No. 2 Pasadena Heights, NE cor. SW SE, Section 14-11-3w, made 5,508 bbls. in sand 6,454-6,559 feet. T. B. Slick Oil Co.'s No. 2 Page, NE cor. NE NW, Section 14-11-3w, has been completed for 4,624 bbls. in sand 6,265-6,629 feet. Coline Oil Co.'s No. 7 Clauer, NW cor. SE SE, Section 25-11-3w, has been completed for 1,225 bbls. in sand 6,280-6,540 feet. Indian Territory Illuminating Oil Co.'s No. 6 Peterson, NW cor. SE SW, Section 25-11-3w, made 12,740 bbls. in sand 6,395-6,620 feet. Sinclair Oil & Gas Co.'s No. 4 School Land No. 67, NE cor. SE SE, Section 36-11-3w, has been abandoned at 6,930 feet. No. 10 Vencl, NE cor. SW SE, Section 31-11-2w, has been completed for 25,750 bbls. in sand 6,404-6,633 feet.

Osage County

Indian Territory Illuminating Oil Co.'s No. 436, SW cor. NE SE, Section 6-26-12, is a rig on ground. The Texas Company and the Prairie Oil & Gas Co.'s No. 8, SW cor. SE NW, Section 30-25-8, is a cellar. Indian Territory Illuminating Oil Co.'s No. 437, NW cor. SE SE SW, Section 30-25-8, is a location. The Texas Company's No. 1, NW cor. SE, Section 22-24-7, is an old well preparing to deepen from 2,914 feet. Empire Oil & Refining Co.'s No. 3, NW cor. SW SW, Section 23-27-11, is dry and abandoned at 1,930 feet. Indian Territory Illuminating Oil Co.'s No. 435, CEL NW NE NW, Section 32-24-9, has been completed for 2,500,000 feet of gas in sand 684-87 feet. Western American Oil Co.'s No. 1, NW cor. SE, Section 28-23-6, has been abandoned in lime at 3,032 feet. Turman Oil Co.'s No. 3, SE cor. SW SW, Section 11-21-8, made 410 bbls. in sand 2,236-2,327 feet, total depth 2,329 feet. Travis and Devonian Oil Co. and others' No. 4, NE cor. SE NE, Section 25-21-11, has been completed for 18 bbls. in sand 2,043-47 feet. Sinclair Oil & Gas Co.'s No. 253, SW cor. NE SW, Section 10-21-12, has been completed for 2 bbls. in sand 1,880 feet after plugging back from 1,930 feet.

Pawnee County

Glass and others' No. 1 McCollum, SE cor. SW NW, Section 14-20-9, is a machine rigging up. Thompson & Black are moving in machine for No. 1 Russell, NW cor. NE NW, Section 29-20-9. Selby Oil & Gas Co.'s No. 1 Lauderdale, NE cor. NE, Section 1-20-7, has been completed for 1 bbl. in sand 2,395-2,498 feet, after plugging back from 2,820 feet.

Pontotoc County

Texas Pacific Coal & Oil Co.'s No. 4 Hatcher, SE cor. NE NW, Section 30-5-5, made 5 bbls. in sand 610-17 feet, total depth 870 feet. Dixie Oil Co.'s No. 1 Allen, NW cor. SE NE, Section 32-5-5, has been completed for 20 bbls. in sand 1,740-62 feet.

Creek County

Gilcrease Oil Co. and others' No. 1 Berryhill, NE cor. NW NE, Section 21-19-7, is a machine on ground ready to spud. Gled Oil Co.'s No. 1 Bruner, SW cor. NW, Section 31-19-8, is a machine. Emarthla Oil Co.'s No. 1 Hodge, SW cor. NW, Section 29-17-10, is a location. Peerless Oil & Gas Co. and others have staked location for No. 1 Posey, NW cor. SW SE, Section 17-16-8. Tidal Oil Co.'s No. 1 Pigeon, SE cor. NE, Section 36-19-7, has been completed for 80 bbls. in sand 2,496-2,537 feet. Phillips Petroleum Co. and Gled Oil Co.'s No. 4 Carter, NE cor. SE, Section 20-19-9, made 550 bbls. in sand 2,152-92 feet. Chestnut & Smith's No. 1-A Rogers, C NW SE, Section 27-17-12, has been abandoned in sand 3,891-3,920 feet. Billingslea and others' No. 3 Knight, SW cor. NE SE, Section 16-15-8, has been abandoned in sand 3,891-3,920 feet.

Lincoln County

T. B. Slick Oil Co.'s No. 1 Fee, SW cor. SW, Section 9-14-4, has been abandoned in sand 4,860-63 feet.

McIntosh County

Deep Fork Oil Co.'s No. 1 Williams, C SW NE, Section 34-12-14, has been completed for 100,000 feet of gas in sand 695-761 feet. No. 1 Rentie, C SE NW, Section 34-12-14, has been completed for 100,000 feet of gas in sand 645-756 feet. No. 1 L. Rentie, SE NW SW, Section 34-12-14, has been completed for 250,000 feet of gas in sand 695-740 feet.

Muskogee County

Babcock Brothers' No. 8 Barnett, CSL SW NE, Section 8-15-15, is drilling at 1,607 feet. Boyle and others' No. 2 Ware, NW cor. SE NE, Section 14-15-15, is drilling at 710 feet. Flannigan and others' No. 4 Foreman, SE cor. SW SW NW, Section 14-13-18, is drilling at 150 feet. Dunbar and others' No. 1 Brown, SW cor. NW NW, Section 8-11-19, is drilling at 810 feet. Bryan Petroleum Co.'s No. 2 Simmons, CSL NE SE, Section 4-15-15, has been completed for 15 bbls. in sand 1,635-61 feet. Graves and others' No. 6 Flowers, SW cor. SE NW, Section 5-13-16, has been abandoned in sand 1,910-40 feet. Flannigan and others' No. 3 Foreman, NW cor. SE NE SW, Section 14-13-18, made 681,120 feet of gas in sand 519-39 feet. Dunbar and others' No. 1 Shetley, C NE NW, Section 5-11-19, has been abandoned in sand 745-67 feet.

Okfuskee County

Cussack and others' No. 15 Smith, SW cor. SE NE, Section 11-11-11, is a rig on ground. Summitt Drilling Co.'s No. 1-A Likowski, C SE SW, Section 23-11-11, made 10 bbls. in sand 1,594-1,630 feet after plugging back from 2,125 feet.

Okmulgee County

Berry & Piatt and others' No. 1-A Roberts, NE cor. SW NW, Section 32-15-14, has been abandoned in sand 2,295-2,318 feet. Misener and others' No. 2 Colbert, NW cor. NE SW, Section 14-14-14, has been completed for 20 bbls. in sand 1,723-60 feet.

Payne County

Deep Rock Oil Corp.'s No. 1 Harris, SE cor. NW, Section 9-18-5, has been completed for 12,000,000 feet of gas in sand 2,640-60 feet.

Pittsburg County

Choctaw Gas Co.'s No. 1 School Lot, SE cor. SE, Section 9-7-18, has been completed for 5,000,000 feet of gas in sand 1,910-2,050 feet.

Texas County

Argus Production Co. has staked location for No. 1 Kenny, C SW, Section 36-5-14ECM. No. 1 Ralston, C NE, Section 23-6-14ECM, made 5,500,000 feet of gas in sand 2,653-2,951 feet.

Tulsa County

Jackson and others' No. 1 Marley, NE cor. SE SE SE, Section 31-19-11, made 10 bbls. in sand 1,899-1,919 feet.

Wagoner County

Bolley & Edwards' No. 1 Childers, NW cor. NW, Section 34-18-16, is drilling at 680 feet. Ennis and others' No. 1-A Lewis, SW cor. SW, Section 29-18-17, is a machine on ground. Beam and others' No. 1 Chockley, CNL NW SW SW, Section 27-17-16, is a machine on ground. Martin and others' No. 1 Asbury, NE cor. SW, Section 11-19-15, has been abandoned at 854 feet. Knox & Shouse's No. 3 Barnett, SE cor. SE, Section 12-16-15, has been abandoned in sand 1,025-63 feet. Peterson & Young's No. 2 Holden, NW cor. NE SW, Section 13-16-15, is dry and abandoned in sand 999-1,025 feet. Cherokee Public Service Co.'s No. 2 Verner, SE cor. NE, Section 35-16-17, has been completed for 15 bbls. in sand 862-74 feet.

Pottawatomie County

Indian Territory Illuminating Oil Co. is building rig for No. 2 Gregg, SE cor. SW, Section 23-6-3. No. 3 Gregg, NE cor. SE SW, Section 23-6-3, is a location. No. 5 Davidson, NE cor. SE NW, Section 23-6-3, is a location. Gypsy Oil Co. has staked location for No. 1 Horn, SW cor. NW NE, Section 23-6-3. No. 2 Horn, NW cor. NE, Section 23-6-3, is a cellar. Deep Rock Oil Co. is building rig for No. 2 Gibson, NW cor. SW NE, Section 23-6-3. Empire Oil & Refining Co. has a rig on ground for No. 1 Alexander, SW cor. SE, Section 23-6-3. Twin State Oil Co. is rigging up rotary for No. 1 Sowers, SW cor. NW SE, Section 23-6-3. Gwinn and others' have staked location for No. 1 Garrette, CNL SW NW SW, Section 25-6-3. Blackwell Oil & Gas Co. has rig on ground for No. 1 Fugate, NE cor. NW, Section 26-6-3. Continental Oil Co.'s No. 1 White, NW cor. NE, Section 26-6-3, is a location. Robinson and Hicks Drilling Co. have staked location for No. 1 Crouch, NW cor. SW, Section 5-6-5. Lambard & Hart's No. 1, Block 16, Lot 10, is dry and abandoned at 1,000 feet.

Seminole County

Burke-Greis and others' No. 1 Henshaw, NW cor. NW SW, Section 30-8-8, is a location. Gypsy Oil Co. has rig on ground for No. 3 Harjo, SW cor. NE SW, Section 20-6-6. Harris and others' No. 1 Fleet, NW cor. SW NE, Section 29-6-6, is spudding. Magnolia Petroleum Co. has rig on ground for No. 1 Wood, NE cor. SW, Section 29-6-6. Lippa Drilling Co.'s No. 1 Bruner, NW cor. NE NW, Section 31-10-6, has been abandoned at 4,364 feet. Gypsy Oil Co.'s No. 19 Cotcha, NE cor. SE SW, Section 23-7-6, made 1,245 bbls. in sand 3,164-74 feet. Pine and others' No. 3 Cheparney, SW cor. NW NE, Section 20-6-6, has been completed for 1,270 bbls. in sand 2,886-2,918 feet. Hilton Phillips and others' No. 3 Chupco, NW cor. SE, Section 20-6-6, made 665 bbls. in sand 2,948-57 feet. No. 4 Burgess, SW cor. NW NE, Section 29-6-6, has been completed for 1,340 bbls. in sand 2,841-73 feet.

Caddo County

English Drilling Co.'s No. 1 Curtis, SW NE, Section 26-6n-10w, is rigging up. Bullock and others' No. 2 Royce, SE SW NE, Section 12-5n-9w, an old well drilling deeper, is drilling at 3,072 feet. Rhome and others' No. 3 Rigney, SW NW NW, Section 12-5n-9w, made 2,800,000 feet of gas at 3,163-79 feet.

Stephens County

Pace and others' No. 1 Tony, SW NE NW, Section 27-2s-7w, is moving in rotary tools. Pace and others' No. 1 Dilly, NE NW SW, Section 27-2s-7w, made 2,000,000 feet of gas from sand 934-42 feet.

REVIEW OF AIR AND GAS LIFT IN SEMINOLE

(Continued from Page 38)

units being installed and operated which has eventually brought about some criticism of the air-gas lift method of production by those companies. Where equipment was secured as desired and the designing engineers were familiar with their problems the air-gas lifts showed low lifting costs and were very satisfactory in producing this oil until such time as the formation pressure dropped below that required to lift the oil to the surface.

When this condition existed the intermittent flowing method of air-gas lift was resorted to and the system continued in operation over a longer period. In other wells the air-gas lift was discarded and the wells either swabbed or put on the beam pumping.

The wells could have been produced after their natural flow life had ceased by pumping and it is probable that the total amount of oil that would have been recovered from these pools would be equal to that which has been recovered to date, but the time required to secure this oil would have been much longer and the returns on the initial investments therefore deferred.

This is one of the questions that has received a lot of consideration by production men and petroleum engineers and the opinions vary over a wide range, but the fact remains that because of the desire to protect the leases against drainage by offset wells every company resorted to whatever method it considered best and used air-gas lift, pumping or swabbing to recover the oil as quickly as possible.

Haste in Drilling a Factor

The Seminole area has long been considered good "oil country" and wells were first drilled in it February 15, 1918, when a cable tool test was started in what afterward developed into the St. Louis Pool by the Maud Oil & Gas Co. on the W. C. Davis lease in the NE of Section 18-7n-5e, which was completed to a total depth of 3,806 feet on December 10, 1922, with an initial production of 14 bbls. of oil per day. An interest in this well was later acquired by the late T. B. Slick, who deepened it to 4,108 feet in December, 1928, and secured a daily production of 5,562 bbls. from the Wilcox sand.

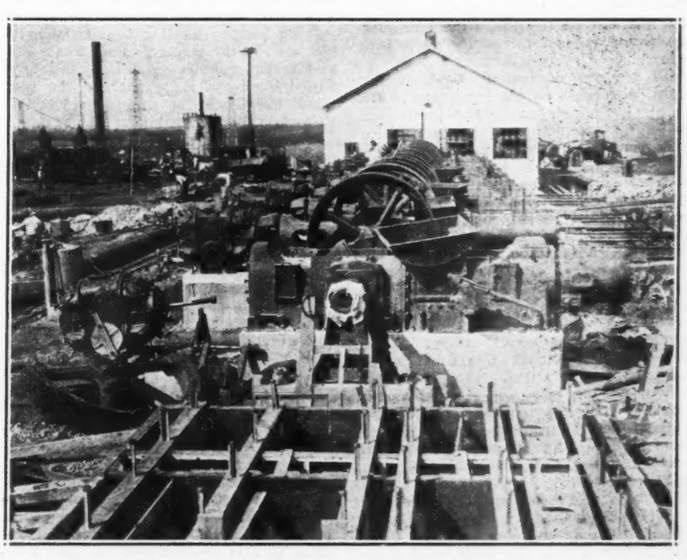
A number of other tests in what is now known as the Greater Seminole area were made between 1918 and 1926 and the land was leased to individuals and to oil companies direct, and it is stated that when the first well was drilled into the Wilcox sand there was an investment of several millions of dollars in leases. In his study of "Seminole and Unit Operation," Clarel B. Mapes, technologist for the Mid-Continent Oil and Gas Association, states that at the end of 1928 there was an investment in leases in Seminole City, Searight, Earlsboro, Bowlegs and Little River Pools of $12,500,000, which included litigation costs.

Another pertinent fact that must be borne in mind when giving consideration to conditions in Seminole area, when the rush to drill started, is the size of the major portion of these leases. The country was cut up into 40, 60, 80, 120 and 160-acre blocks and so held that quick sales were very common and once the land was acquired by a company the desire to drill and produce oil overshadowed all other conditions.

Furthermore, this particular area was at that time about the only unexplored area in Oklahoma that gave promise of quick returns and the oil companies having money to invest in the production of oil were quick to act and anxious to develop their holdings, so that wells were started over a widespread area once the boom got under way, and orders were given to get to the Wilcox sand in the shortest possible time.

Responsibility Rested With Executives

Whatever may be charged against the petroleum engineer for the part he played in introducing the air-gas lift into the oil industry in a large way in Seminole



Installing machinery in compressor plant in Seminole district during rush period.

it must be remembered that he was acting under orders from his executives, and they were all moved with the same desire to secure all the oil possible from their particular holdings which in accordance with the way the oil business is conducted is quite the natural thing to do—and then later to try to undo the damage done by overproduction.

Plenty of warning was given of the flood of oil that might come from such actions but in the frenzied haste of that period and pushed on by the mad scramble that was being indulged in by everyone with lease holdings in the district there seemed to be no one who was inclined to stop, look and listen and heed such advice for their immediate problem was to protect their company and secure the oil, and if they hesitated they were served notice by the landowners and royalty holders that if they did not proceed at once to drill they would be held responsible for damages.

With such a vicious circle of circumstances surrounding him, the executive had little recourse and if he was drawn into the maelstrom there was little else to do but to fight it out with whatever means were at hand.

While rotary drilling had been used in several pools in Oklahoma prior to 1926, it was in the Seminole area that they got their greatest play and contractors set up over night to drill holes, securing their equipment upon a small down payment and credit extended by the supply houses. Drilling crews were imported or improvised and orders were given to "step on it."

The drillers were judged by footage made, not by the type of hole or economy of operation, and as their jobs depended upon making hole, they frequently drilled ahead when their better judgment told them that they should stop and take stock of things and perhaps redrill. It is estimated that out of every 10 wells started during this boom period, one hole was lost and the drilling contractor had to bear the major portion of the expense of redrilling.

The cost for 184 pulled and plugged wells in the Seminole City, Searight, Earlsboro, Bowlegs and Little River Pools is placed at $75,000. per well, or a total of $13,800,000, by Mr. Mapes, in his review of that area in the 1928 annual of the Mid-Continent Oil & Gas Association. Two hundred and fifty dry holes at $70 000 each, in the same area, cost $15,000,000.

Compressor Installations

After the success of the air-gas lift to produce from 400 to 1,000 per cent more oil daily than by natural flowing had been demonstrated it became quite common practice in this area to install compressor plants in anticipation of the well's completion. Then when the well was finished it was immediately put on the gas lift and produced to the maximum. Where the well was dry or a small producer because of sand conditions, a large portion of this compressor plant was lost, but on the whole the increased production seemed to justify such procedure.

Oil and gas separators, field storage tanks, pipe lines on the lease, and other details were installed in anticipation of the well's completion, a program quite the reverse of that which had been previously followed where it was customary to complete the wells with the minimum tankage and await its completion before proceeding with lease equipment for handling the oil and gas.

But in the Seminole area many old practices were discarded and there seemed to be but one rule to follow and that was: "Get the oil," and it was secured and produced until, within eight months after the active drilling of the Wilcox sands started, this area, which compares in size with the Cushing Pool, was producing more oil daily than the Cushing Pool had reached in daily production in three years—approximately 320,000 bbls., and on July 27, 1927, it reached a peak of about 523,000 bbls. daily.

Study of Production and Prices

It is interesting to study the price structure from November 17, 1926, up to and including July 26, 1928, during the period of greatest development and production and compute the value of the oil produced at the various prices for 38 gravity crude.

The price of this grade of oil on November 17, 1926, was $2 per barrel, and between that time and February 22, 1927, when the price was reduced to $1.75 per barrel, the Seminole area produced about 15,500,000 bbls. of oil that sold for around $31,000,000.

Between February 22, 1927, and March 5, while the $1.75 price was effective, it produced about 3,400,000 bbls. of oil for which the producers received approximately $5,950,000. March 5 the price was cut to $1.53 for 38 gravity oil.

Between March 5 and March 12, the date when the price went to $1.32, there were 2,165,000 bbls. produced, valued at $3,312,450. The March 12 price was maintained until February 21, 1928, when it went to $1.34 per barrel

Between March 12, 1927, and February 21, 1928, 135,500,000 bbls. of oil were produced and sold at $1.32 per barrel average, or a total of $178,860,000, and then the price was raised 2 cents per barrel, or to $1.34, for 38 gravity and this price continued until July 26, 1928, and during that time 41,350,000 bbls. of oil came out of the Seminole area with a total value of $55,409,000.

Therefore, from November 17, 1926, up to and including July 26, 1928, the Seminole area produced approximately 197,915,000 bbls. of oil for which the producers received a total of $274,531,350. If an average price of $1.66 per barrel for 38 gravity crude had been in effect during that period this oil would have been worth $328,538,900, or an increase to the producers of about $54,007,450. The $1.63 price is secured by averaging $2 and $1.32, the high and low prices for the period under consideration.

And while this oil was being produced under these conditions, every other field in this country was suffering from the price cuts, so even if it might be stated that the operators were justified in lifting this oil by air-gas lift at a cost of from 7½ to 8 cents per barrel, depending upon the size and type of plant and well and this lifting cost showed a profit at the selling price of oil at that time, it must be remembered that this cost did not take into account the cost of the plant, interest on the investment or depreciation.

Compressor plants have been estimated to have cost from $15,000 to $35,000 per well, and Mr. Mapes in his analysis covering about the same period as given above for the production and price structure, states that development and production equipment for 1,240 wells completed in the five pools named above amounted to $49,600,000.

It is stated that good equipment could be used to produce from 10 to 12 successive wells, and therefore the initial costs should not be charged against the Seminole wells only for the machinery might be salvaged and moved elsewhere, and while this is quite true, the cost of making grades, hauling foundations, labor, etc., in the Seminole Pool was a loss and under weather conditions that prevailed during a large part of the time when the height of the boom was on, these installation costs were high.

There were also added costs for changes in plant details after first installed as lack of experience with this type of equipment in many cases caused unsatisfactory installations that had to be corrected later.

Effect on the Gasoline Market

It has been shown that the natural flowing wells from the Wilcox sand produced an oil with a gravity of 40.3 A.P.I. standard, while with continuous gas lifts this gravity was reduced to 38.4 degrees, and with intermittent gas lift to 38.6 degrees, or a loss in gravity of from 1.7 to 1.9 degrees. On this basis, at the peak of production in July, 192., there was a loss of 4 cents per barrel, or on 527,000 bbls., $21,080 per day if all the oil was produced by gas lift methods.

This enriching of the gas caused the companies to pass the gas through gasoline plants where extraction of gasoline was made to the detriment of the market value of this product and this had a direct effect upon the refinery operations.

H. B. Bernard, vice president, Sinclair Oil & Gas Co., in an article presented before the Natural Gasoline Association of America meeting in Tulsa, May 22-24, 1928, and published in The Oil and Gas Journal, May 24, 1928, stresses the damage done by the overproduction of gasoline from gas used in lifting oil and, in closing, stated:

"I wish to again impress on you that the problem of gasoline manufacture in its relation to gas lift is an economic one. * * * I will state without fear of successful contradiction that it is more profitable to let a lot of gas blow off in the air than it is to extract gasoline from that gas when by so doing a demoralized market is further glutted with a material that is produced far in excess of any reasonable demand."

It therefore seems that like everything else that came within the vicious circle of circumstances in the Seminole area during the boom period the use of the air-gas lift reacted to cause loss to the gasoline manufacturing industry and therefore in addition to lowering the gravity of the crude oil so produced it placed the gasoline to be extracted from the crude in competition with the natural gasoline made from the gas made in producing it.

It has been stated that when the market price for natural or casinghead gasoline fell below 6 cents per gallon, the gasoline plants in the Seminole district actually lost money handling the gas, and still it was found necessary to remove this liquid from the wet gas in order to secure efficient operation of the gas lift.

Increase in Bulk Storage

This article can by no means cover all of the conditions that were set up in the industry during the Seminole boom, but there is one other phase of the situation that might be well considered and that is the investment made in steel tanks for handling this crude in the field, to say nothing of the other tankage in tank farms and at refineries that were filled with Seminole crude and held there at a cost to the purchasing company because of no immediate market for the excess production.

The following table shows the number of 55,000 and 80,000-bbl. steel tanks in the Seminole area in August, 1927, just after the peak of production was passed and in August of this year:

TANKAGE—SEMINOLE AREA

	Aug. 1927		Aug. 1930	
Company—	No. 55s	No. 80s	No. 55s	No. 80s
Amerada	26	...	16	...
Barnsdall	3	13	2	*5
Blackwell	...	1	...	...
Carter	27	...	27	...
Champlin	...	...	5	...
Continental	1	...	3	7
Cosden	4	...	...	...
Crosbie	6	...	...	...
Deep Rock	...	...	...	2
Empire	...	2	...	2
Gypsy	6	...	10	...
Independent	10	...	10	2
I.T.I.O.	13	52	13	54
Magnolia	...	...	54	3
McCullough	...	1	...	...
Mid-Continent	...	...	7	...
Phillips	2	2	...	2
Pure	27	...	25	...
Prairie	22	1	28	20
I.T.I.O.	...	...	...	36
Shell	...	1	...	1
Shaffer	...	2	...	...
Twin State	2	...	...	...
Slick	2	16	...	...
Superior	2	...	...	...
Tidal	3	5	3	5
Texas	3	...	6	20
Turman	5	1	5	1
White Oak	...	...	4	...
Total	164	97	218	160

Seminole Area—Working Storage

Barnsdall	1	...	2	...
Champlin	...	...	1	...
Empire	...	6	...	...
Gulf	2	...	2	...
Magnolia	...	...	6	...
Cosden	...	...	3	...
Oklahoma	2	...	2	...
Pure	...	...	2	...
Texas	...	...	1	...
Texas-Empire	...	...	...	6
Sinclair	1	...	...	...
Total	6	6	19	6
Grand total	170	103	237	166

*Barnsdall sold tank farm to Texas.

The 80,000-bbl. tanks cost about 33⅓ cents per barrel of capacity to buy and erect and the 55,000-bbl. tanks are carried at about 40 cents per barrel. On this basis the 80,000-bbl. tanks cost about $26,640 each and 103 of them represented an investment of $2,743,920; while the 55,000-bbl. tanks cost $21,000 each and 170 of them cost $3,570,000 or the total investment in steel tanks was $6,313,920 in August, 1927.

Taking Mapes' figures of $1.44 as the average selling price of Seminole oil at that period this would mean that 4,360,000 bbls. of oil had to be produced to pay for this investment and that does not allow for any handling costs of the oil or deductions for royalties, etc. It is just the cost of the tanks expressed in barrels of oil. And the cost of the tankage does not include land values, or the cost of dykes, lighting systems, employes' houses and other items that should be charged against this storage investment.

This is a part of the picture of Seminole development and its costs and causes and while it must be admitted that the use of the air-gas lift was responsible for securing the great quantity of oil that was produced in a relatively short time, still it must be remembered that if the drilling campaign had not been prosecuted with such vigor the wells would not have been completed and the need for the air lift would have been negligible. It is even doubtful if it would have received much consideration, for the idea was, as a matter of fact, not at all new to the industry for it has been tried in eastern and foreign fields many years before introduced into Seminole, but it was first used there at the psychological time and in self defense everyone had to make use of it or see his neighbor secure a portion of his oil, that is, if it is granted that oil will migrate rapidly from one lease to another with wells centered in 10-acre tracts.

In some cases it was reported that the air lift helped the offset wells for when it was in operation the wells producing naturally on the adjacent lease secured an additional amount of oil. This, however, is rather difficult to prove for all the evidence necessary to reach definite conclusions is not available from both companies for very obvious reasons.

The air-gas lift has won its place as a production method and it will be used in other flush pools, but it is very doubtful if it will ever again be applied by this generation of oil operators in the manner in which it was used in Seminole. But, again, where and when will we find another area like Seminole that was so well suited for the gas lift because of sand conditions and where its application seemed to fit so well into the scheme of things?

PANHANDLE FIELDS

(Continued from Page 70)

duction 40 bbls. R. R. Clark and others' No. 8 Bickley, oil sand 853-67 feet, initial production 80 bbls., total depth 867 feet. Douglas Production Co.'s No. 1 fee (Thatcher), oil sand 854-69 feet, initial production 18 bbls., total depth 869 feet. John O'Neil's No. 2 Honaker, oil sand 1,012-19 feet, initial production 10 bbls., total depth 1,019 feet. John O'Neil's No. 1 Waggoner, dry and abandoned, total depth 1,753 feet. M. Staniforth's No. 1 Kemp and Kempner, dry and abandoned, total depth 1,828 feet. J. H. Turner's No. 1 Smythe, dry and abandoned, total depth 2,005 feet. Walton and Blair's No. 3 Honaker, oil sand 854 feet, initial production 30 bbls., total depth 865 feet.

Young County

Arkansas Fuel Oil Co.'s No. 1 Jeffery, dry and abandoned, total depth 905 feet. J. A. Bearman's No. 1 Baldwin estate, dry and abandoned, total depth 752 feet. Consolidated Oil Co.'s No. 1 Dietrich, oil sand 1,083-96 feet, initial production 90 bbls., total depth 1,096 feet. Corzelius and Vandevier, dry and abandoned, total depth 1,050 feet. J. W. Fuelet's No. 1 Kennedy, dry and abandoned, total depth 60 feet. C. Massingale's No. 1 Davis, location abandoned. McDonald and Campbell's No. 1 Holder, dry and abandoned, total depth 825 feet. W. R. Stafford's No. 1 Brown, dry and abandoned, total depth 615 feet. J. H. Watson and others' No. 2 A. C. Watson, dry and abandoned, total depth 803 feet.

"Trifles make Perfection, but Perfection is no Trifle"

It's Not Loss By Leakage That Counts So Much!!!

It's Evaporation!

B.S.&B.

Perfection Vapor Pressure TANKS

Pay for Themselves By the Crude They SAVE!

Have you ever realized the evaporation loss in a tank of crude? It amounts to as much as five barrels (per 250-barrel tank) a day, which is SOME loss!

Now that loss is all by evaporation. A tank may be leakproof, but that's not sufficient in storing crude, for you know crude contains valuable gases. And when the sun shines on the tank, heating the crude, these valuable vapors are released, are bound to escape unless the tank is absolutely *vapor pressure tight.*

Each B.S.&B. PERFECTION Tank not only stores crude, but protects it. There is no leakage, nor evaporation. And by retaining the lighter fractions, as well, the gravity of the oil is higher, which also means a better price. Thus these tanks soon pay for themselves.

Each B.S.&B. Tank is equipped with the famed Thief Hole Pressure Vacuum Valve.

"Service on the Dot — Service on the Spot"

B.S.&B. Service has speed as its creed. Fifty branch offices located throughout the Mid-Continent and Rocky Mountain Fields, with complete stocks and our own trained erecting crews, insure definite action within a few hours after the order is placed. Man! That's service!!

All the fine things about B.S.&B. Tanks may seem too good to be true, but we can show that our statements are not fiction, but fact, and prove them by performance. May we discuss tanks personally, or by letter or literature? Just address Dept. B-30.

EFFICIENT B S & B SERVICE DEPENDABLE

Our Watchword QUICK SERVICE

Black Sivalls & Bryson INC.

BARTLESVILLE ~ OKLAHOMA

West Virginia Has Best Well of Week

Fair Gas Wells Completed in Southeast Ohio and Southwest Pennsylvania. Curtailment Program Reflected in Daily Runs

By Special Correspondent

PITTSBURGH, PA., Aug. 25.—The curtailment program in the Eastern Fields is very apparent in the reports of daily runs by the eastern pipe lines. It is also making itself felt in the diminished activity in the oil areas of these districts. During the past week there was but one oil well of any size reported and that was in West Virginia. In southeast Ohio, there were several fair gas wells completed and in southwest Pennsylvania but slight change.

SOUTHEAST OHIO

A fair gas well was completed in Southeast Ohio by the Ohio Fuel Gas Co. in its test on the J. J. Franks farm in Section 8, Washington Township, Holmes County. It was drilled to the Clinton sand at 2,998 feet and is estimated good for 1,500,000 feet a day. A well of similar size was completed in Section 1, Lodi Township, Athens County, where Nezum and others completed No. 2 on the Mrs. E. F. Sargent farm to the Grit at 1,543 feet.

The Ohio Fuel Gas Co. completed its test on the Levi Wolf farm, in the northeast quarter of Section 22, Reading Township, Perry County. It was drilled in the Clinton sand at 3,000 feet and is estimated good for 1,000,000 feet.

In Athens County, Section 26, Alexander Township, near Albany, Park Bowers and others drilled their No. 2 on the Fred Cooley farm to the Grit at 1,403 feet and after a shot it showed for about a quarter-barrel well and was abandoned. Frank Quinn completed his No. 10 John A. Long, in the southeast quarter of Section 13, Monroe Township, Harrison County. It reached the Berea at 1,110 feet and after a shot made 3 bbls. the first 24 hours.

The Preston Oil Co. completed No. 1,420 on the Sunday Creek Coal Co. tract, in the northeast quarter of Section 29, Ward Township, Hocking County, to the Clinton sand at a depth of 3,460 feet. It made 20 bbls. the first day after a shot. In Jefferson County, George A. Vaughn & Co. completed their test on the George A. Vaughn farm, southwest quarter of Section 14, Island Creek Township, and it was a dry hole in the Berea at 1,350 feet. E. J. Edmonds and others had a similar result in their test well on the Robert Stair farm, Lot 5, Newton Township, Licking County. It was completed in the Berea at 690 feet.

Shallow Completions

There were several completions in the shallow sands in Medina County. The Oko Oil & Gas Co. drilled No. 26 on the L. W. Brinker farm, Lot 6, Chatham Township, to the Cow Run at 344 feet and after a shot it made 5 bbls. the first 24 hours. In the same township, the same company completed its No. 32 and on the Jesse McVicker farm, Lot 1, Section 2, to the Cow Run at 460 feet and it made 8 bbls. the first 24 hours after a shot. J. R. Kommer drilled his No. 4 on the J. A. Kruggle farm, Lot 3, Section 18, Chatham Township, to the sand at 530 feet and it is dry.

In Muskingum County, there were four new completions, none large. The Ohio Fuel Gas Co. drilled a test on the Albert Patterson farm, in the northwest quarter of Section 14, Perry Township, and it reached the Clinton at 3,956 feet. It was drilled deeper to the Red Rock at 4,051 feet and is a gas well estimated good for 115,000 feet. In the same township, but in the southwest quarter of Section 12, Longfellow and others completed a test on the L. B. Jackson farm. It was drilled to the Clinton sand at 4,066 feet and then deeper to the Red Rock at 4,155 feet and is a gas well good for 100,000 feet. In the northeast quarter of Section 11, Perry Township, the Wittmer Oil & Gas Properties completed No. 2 on the I. B. Baker farm to the Clinton sand at 4,289 feet and it is estimated will probably make a 2-bbl. pumper. In Washington Township, the Atha Oil Co. drilled a test on the Benjamin Duer farm also to the Clinton sand and at 3,872 feet it was dry and probably will be abandoned.

In Noble County, C. W. Rich and others completed No. 5 on the Arthur H. Rich farm, in the southwest quarter of Section 17, Zenica Township, and after a shot in the 700-foot sand it will be a small pumper.

Starting and Drilling

In Section 16, Perry Township, Coshocton County, the Preston Oil Co. is drilling at 550 feet in its test on the F. H. Donaker farm. In Section 15 of Pike Township, same county, McClay Brothers and others have reached 2,550 feet in their second well on the Perry Ashcroft farm. In Perry County there are some new rigs standing. In Section 1, Jackson Township, the W. G. Perrigi Co. has a rig up for its test on the J. A. & W. E. Donnelly farm. Perry Sturm and others have a rig ready for their test on the Somerset Fairgrounds, Section 15, Reading Township. In the same township, the Mid-East Co. is ready for its test on the Ed Brown farm, in Section 15, and in the same section the Ohio Fuel Gas Co. has a rig up for its test on the Russiler & Snyder farm.

WEST VIRGINIA

There were few oil wells completed in West Virginia during the week and of these there was one fair well. This was the well reported last week in Sherman district, Calhoun County, and completed by the Virginian Gasoline & Oil Co. as No. 2 on the C. C. Morris and in the Injun sand at 2,110 feet. It made 5 bbls. a day natural and has since been shot with an increase to an estimated 50 bbls. a day.

On the Ohio River, Grant district, Hancock County, the R. J. Braden Co. completed No. 43 C. E. Brenneman farm, in the Berea sand and it is showing for a 7-bbl. well. Norman Agnew completed his test on the C. C. Jackson farm, Clay district, Wirt County, to the Mitchell sand and it is a small oil well for a quarter-barrel a day.

Gas Wells

Boone County was fairly active with four completions. In Sherman district, the Pure Oil Co. completed No. 3 on the L. Sutphin farm to the Berea at 2,400 feet and it is showing for a very good gas well natural. In the same district, Godfrey L. Cabot has a gas well in No. 7 on the Nelson Land & Oil Co. property. In Washington district, the Cameron Oil & Gas Co. completed a test on the D. S. Ball farm to the Berea at 2,072 feet and it is a fair gas well natural. In Scott district, the Owens Bottle Co. drilled No. 18 on the Allen Pryor farm also to the Berea and it will make a gasser.

In Calhoun County, the South Eastern Gas Co. completed a test on the A. L. Holt and others farm, in Sherman district, to the Injun at 1,744 feet and it is a light gas well. In Sheridan district, on the waters of Yellow Creek, the C. S. Morris and others' test on the Baptist Church lot to the Berea sand was dry. The sand was reached at 2,530 feet and the well abandoned.

On Wade Run, Cass district, Monongalia County, C. C. Nuss completed his test on the Michael Barrickman farm at a depth of 2,394 feet and it was dry in all sands. In Clay district, the Chartiers Oil Co. drilled No. 1 on the J. K. Wilson farm to the Bayard sand at 3,279 feet and it is a good gas well. In Battelle district, Eddy Johnson & Co. drilled No. 1 on the W. L. Fox farm deeper to the fourth sand, 3,105 feet, and it is showing for a small gas well.

Marion County

In Marion County, the M. W. P. P. Service Co. drilled its test well on the E. D. Toothman farm, reported previously as completed at 2,810 feet, deeper in the sands to 2,930 feet and it made a slight increase. In Ritchie County, the Reno Oil Co. drilled No. 2 on the M. H. Jones farm, in Clay district, to the Big Injun sand at 1,874 feet and it is showing for a small gas well. In Wood County, the McKinley Oil Co. drilled its test well on the J. M. Hively farm, in Williams district, and found a show of oil in the Maxon sand at 1,060 feet and then to the salt sand at 1,115 feet, from which sand it is estimated it will make 1½ bbls. a day.

In Wetzel County, on the north fork of Fishing Creek, Grant district, the Victor Oil & Gas Co. completed No. 1 on the S. J. & Johanna Kilcoyne farm to the fourth sand, 2,784 feet, and it is dry. Formerly this well was a small producer from the Big Injun sand.

Starting and Drilling

Boone County remains fairly active with the following work going on. The Hope Natural Gas Co. has spudded in and started drilling No. 7,504 on the W. H. Mitchell farm in Washington district. In Scott district, the United Fuel Gas Co. has reached 650 feet in its test on the Elizabeth Smott farm. The same company has a location ready for its test on the Courtney Co. property in Scott district. On the Lafollette, Robson and Prichard tract in Sherman district the Pure Oil Co. is drilling its Nos. 38, 39 and 41. In Washington district, the Southern Gas Co. is drilling No. 3 and No. 4 on the Miller heirs farm and has locations ready for Nos. 5 and 6.

In Calhoun County the Goodwin Gas Co. is rigging up for a test on the John R. Lockney farm in Sherman district. In Lee district the South Eastern Gas Co. has spudded in and started drilling its test on the Ida M. McCoy farm. In Center district Bart Crawley is rigged up for his test on the Florence Pell farm. In the same district, A. H. Jackson has a rig ready for his No. 1 on the F. S. Means farm and W. H. Bickel has taken a location for a test on the John D. Collins farm.

In Cabell County, Ortman & Shipe have reached the top of the Carniferous lime at 3,452 feet in their test on the Ezekiel Houchin farm in Barboursville district. In Grant district the Harshbarger Oil & Gas Co. is rigged up and ready to start drilling on the J. A. and Oscar Conner farm.

The Virginian Gasoline & Oil Co. has reached 1,220 feet and 550 feet, respectively, in its Nos. 27 and 28 on the Brown, Goshorn and Swan tract in Henry district, Clay County. Its No. 26, completed in July, is a 10-bbl. pumper.

Gilmer County wells are mostly waiting on water to either start up or to complete. There are quite a few wells within a short distance of the sands without sufficient water to complete.

Kanawha County

In Kanawha County the Cambridge Gas Co. has a location ready for a test

(Continued on Page 109)

FEW COMPLETIONS IN KENTUCKY. BUT RESUMPTION EXPECTED SOON

By George A. Whitney

OWENSBORO, Ky., Aug. 25.—With the shutdown to a large extent in the Kentucky fields owing to the rapidly growing production in the western portion of the State and the long drouth, but a very few wells were reported. A heavy rain recently will help out materially in the starting of wildcat ventures planned during the partial shutdown a couple of weeks ago. No new wells will be connected to pipe line for at least a couple of weeks; then if water conditions are good there should be resumption in all areas.

The Times-Journal of Bowling Green, Ky., has this to say about what the oil companies did during the scarcity of water: "Large quantities of water were furnished free of cost to a large number of people out in the country, whose water supply had been exhausted. The managers and the oil companies, which they represent, who made it possible to deliver this water by means of their large tanks without a cent of cost to the recipients should and do receive the most heartfelt thanks of the citizens of Bowling Green and Warren County. Not only was the use of the tanks made possible, but the cost of operation borne entirely by those companies. This is another evidence of the long since exploded idea that was so prevalent many years ago that corporations were heartless. Certainly the action of these large oil companies has been a wonderful feature in bringing relief to suffering humanity, and this is but one of the many instances which show that such corporations and companies are managed by men with big hearts."

Bowling Green Field

In the Bowling Green Field of Warren County, Shriver and others' test, 900 feet from the north line and 300 from the south line of the John Sennebaugh farm, south of Bowling Green, developed into a dry hole, and the same parties found a duster on the R. G. Davenport farm, southwest of Bowling Green.

Ohio County

The Deanfield Pool, in Ohio County, is developing some fairly nice gas wells. H. L. Ogle and others' No. 1 J. J. Miller farm is reported with a volume of 500,000 feet in the Jett sand at 480 feet. Same firm's No. 1 on the Norris farm, same pool, is estimated at 1,000,000 feet from the Jett sand at 430 feet. Same firm struck a gas well rated at 500,000 feet in No. 1 on the Guenther-Gant farm, the gas being found in the Stray sand.

Huff, Bratton and others' test on the George Fulkerson farm was a dry hole at 945 feet. Lowman, Daley & Stevens' test on the Moseley farm, in the Buford Pool, in the western part of the county, is also a dry hole. H. L. Ogle and others' test on the Ves Whitley farm, in the Deanfield Pool, is reported with a gas volume of 500,000 feet.

Daviess County

Evans & Garrison drilled a dry hole in No. 3 on the Rittle farm, in the Red Hill district of Daviess County. Kentucky-Florida Oil Co.'s No. 1 M. J. Holbrook farm, 2 miles north of Whitesville, is reported a duster.

Rhodes and others are drilling No. 1 on the J. B. Harrison farm, in Ohio County, and J. A. Ford and others are drilling No. 1 J. H. Haynes farm, same county.

In McLean County, the Cumberland Petroleum Co. and others drilled a dry hole on the Shocklee farm, in the Barrett Hill Field. Leeper Oil Co.'s No. 4 R. J. Blackaby 42 acres, in the Maxwell Pool, same county, was also a duster.

Twenty-One Completions in Central Ohio

Seneca County Wildcat May Be Helped by Shot. Lucas County Well 4 Miles From Production Estimated 50 Bbls.

By George A. Whitney
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Aug. 25.—The Central Ohio Field maintains its usual activity by the large gas companies. Indiana failed to report a single completion and Illinois had only a few scattered wells.

In the old Lima Field, Williams and others drilled a wildcat on the Henry Stuckey farm in Bloom Township, Seneca County, which was reported good for less than a barrel of oil and approximately 96,000 feet of gas from 1,929-83 feet, but may be helped by a shot later on. In Scipo Township, same county, the Honey Creek Oil Co. drilled a test on the G. H. Burton farm, Section 33, the Trenton being topped at 2,001 feet and after going 20 feet in that formation a showing of oil appeared and will be given a shot in hope of making a commercial producer from it.

Dillon & Weed's test on the D. C. Teft farm, Section 29, Monclova Township, Lucas County, is estimated at 50 bbls. initial, and about 4 miles in advance of production.

Charles Aber drilled in a gas well showing for 500,000 feet open flow at No. 2 on the Minnie Kohler farm, Section 7, Pleasants Township, Hardin County, from 1,332-39 feet.

The wildcat drilled by the Henry Oil & Gas Co. in the D. J. Creager farm, Section 27, Damascus Township, Henry County, and far in advance of previous production, is credited with a gas well good for 600,000 feet in the Trenton lime which was topped at 1,688 feet and drilled 262 feet in that formation to a total depth of 1,940 feet.

CENTRAL OHIO

Twenty-one completions were reported from the Central Ohio area of which five were producers with an initial production of 239 bbls., 6 dry holes and 11 gas wells, while in new work starting there were 14 locations made and 22 wells started downward, a total of 36, which signifies that the drill will be kept going over a wide area covering many counties of the State.

In Ashland County, Greene Township, the Ohio Fuel Gas Co.'s No. 2 George W. Tugend farm, Section 15, is a gas producer. Same company also found a small gas well in No. 1-5,090 on the T. J. Culler, Lot 31, Vermillion Township. Robinson and others found a dry hole in No. 6 on the W. S. Wolf farm, Section 16, Lake Township, same county, there being no sand found. Same parties are drilling No. 6 Emma A. Devinney farm, Section 9, same township.

In Medina County no completions were reported. The Kemrow Co. is starting No. 2 on the Frank Rhader farm, Section 4, Homer Township, and Myers Brothers made a location for No. 8 on the G. P. Mong farm, Lot 56, Harrisville Township.

In Lorain County, Carlisle Township, the Ohio Fuel Gas Co. struck a gas well in No. 1-5,188 on the John Solet farm, Lot 21. Wiser Oil Co. is drilling No. 1 on the Thomas A. Conway farm, Lot 6, same township.

In Holmes County, Hardy Township, the East Ohio Gas Co.'s No. 3 Hugh McCullough farm, Lot 28, is reported with an initial of 100 bbls. from 3,444-81 feet. Ohio Fuel Gas Co. has a gas well in No. 1-5,126 J. J. Franks farm, Lots 8-16-17, Washington Township, same county. East Ohio Gas Co. is drilling No. 6 S. H. Sterling, Lot 36, Hardy Township.

Richland County

In Richland County, Worthington Township, a gas well was drilled by the Ohio Fuel Gas Co. in No. 1-5,202 Mary J. Lambert farm, Section 25.

In Knox County, Union Township, Bell Brothers have an average gas well on the Frank Spearman farm, Section 23, from 719-35 feet, and a dry hole was found in No. 3 J. M. Lower farm, same township, from 712-27 feet. Upham Gas Co. is drilling on the Jesse White farm, Section 23, Monroe Township. Ohio Fuel Gas Co. has abandoned No. 4-5,077 location on the David Keck farm, Lot 39, Brown Township.

In Coshocton County the Preston Oil Co.'s No. 1-1,429 John Rine farm, Section 16, Perry Township, is reported at 96 bbls. initial after a shot from 3,194-3,214 feet.

In Licking County, Fallsburg Township, Norpell and others made a location for No. 2 W. G. Booth farm, Section 13, and I. C. Robinson is drilling on the C. H. Kidd farm, Section 3. In Hopewell Township the Ohio Fuel Gas Co.'s No. 1-5,182 Edward Goldsmith farm, Section 18, shows for 3 bbls. of oil and a fair gas volume from 2,902-46 feet. The Preston Oil Co. is drilling No. 2 Melvin R. Stasel farm, Section 23, Madison Township.

Muskingum County

In Muskingum County, Washington Township, the Atha Co. has a gas well on the George R. Bendure farm, in the Fourth quarter of the Township, at 4,008 feet. Ohio Fuel Gas Co. has a dry hole in No. 1-5,191 Simon Redman farm, Section 6, Falls Township, from 3,591-3,607 feet. Donahoe and others are starting a second test on the A. P. and J. W. Rusk, Section 17, Harrison Township. Wittmer Properties Trustee's No. 2 I. B. Baker farm, Section 12, Perry Township, was drilled deeper and produced 1 bbl. of oil at 4,283 feet. In the same township, the Ohio Fuel Gas Co. has a gas well in No. 1-5,139 W. H. Urban farm, Sections 12-19, at a total depth of 4,361 feet. The Pure Oil Co. is drilling No. 3 Otis McKee farm, Section 6, Jackson Township. Ohio Fuel Gas Co. drilled in a gas well in No. 1-5,180 on the Orville Dozer farm, Section 5, Brush Creek Township, at 3,936 feet. Hopewell Gas & Fuel Co. is drilling on the Oscar Perry farm, Section 6, Licking Township, same county.

In Athens County, Ames Township, the Ohio Fuel Gas Co.'s No. 1-5,174 Johnson-Blackwood land, Section 13, is a light gas well at 1,362 feet. In York Township, same county, the Hocking-Athens Coal, Oil & Gas Co.'s No. 8 on the Arnot heirs lease, Section 35, produced an initial of 12 bbls. in 24 hours.

In Fairfield County, Rush Creek Township, Merle Myers and others' No. 4 Jess D. Zartman farm, Section 1, developed into a duster at 2,747 feet.

In Guernsey County, Wheeling Township, the East Ohio Gas Co.'s No. 6 E. C. Quillan farm, Section 11, is reported at 30 bbls. initial from 3,462 feet.

In Belmont County, Somerset Township, M. Fulton and others made a location for a second test on the William T. Lane, Section 20-26, and M. Fulton and others are drilling No. 1 John T. Skinner, Section 1.

In Morgan County, Marion Township, Ohio Fuel Gas Co. has a gas well in No. 1-5,209 N. M. Wood farm, Sections 33 and 34, in the Maxon sand at 870 feet.

ILLINOIS

One of the best finds in the older Illinois Field was made by J. D. Toomey and others in No. 11 well, 600 feet from the north line and 200 from the west line of the Harrison Buchanan farm, NW Section 10, Wabash Township, Wabash County, in the Allendale Field, which showed an initial production of 110 bbls. from 1,450-1,500 feet. Same parties abandoned No. 3 on the George D. Smith, SE Section 5, same township. Joe S. Young, Jr., and others' test in the SE cor. of the R. E. Prichett farm, NE Section 3, same township, was a dry hole at 1,587 feet.

Blosser and others drilled a test in the SW cor. of the Lilly Des Loeuf, NE Section 12, Dennison Township, Lawrence County, which was dry in the McCloskey sand at 1,977 feet.

Watson and others' test in the NW cor. of the L. E. Wilbert farm, NW Section 13, Prairie Township, Crawford County, is listed as a 25-bbl. initial producer at 1,035 feet. W. C. McBride, Inc., drilled a duster in the SW cor. of the B. E. Maddox, SW Section 3, Montgomery Township, same county.

North of the Westfield-Casey Field, McColpin & Brook's No. 17 well, 400 feet from the south line and 600 from the west line of the J. H. Handley, SE Section 34, Embarras Township, Edgar County, shows an initial of less than 1 bbl. in 24 hours, the total depth being but 240 feet, and has been very shallow drilling, although most of the wells drilled to the extreme north of the Westfield-Casey Field were shallow and small producers.

Missouri Duster

The Shell Gas Co.'s wildcat venture, 300 feet from the south line and 1,600 from the west line of the Joseph Echels farm in Survey 1,810, Township 48n, came in a duster at from 535-617 feet. This well is in St. Charles County, Missouri, where several dry holes have been drilled recently in a hunt for both oil and gas.

CLAIM SAND IN TENNESSEE SAME AS OKLAHOMA CITY PAY HORIZON

By George A. Whitney

RED BOILING SPRINGS, Tenn., Aug. 25.—Interest in Tennessee as an attractive area for gas prospecting during these days of a glutted oil market was stimulated by the recent discovery that a member of the Middle Ordivician series known as the St. Peter sandstone is none other than the same sand that is producing the phenomenally large wells at 6,500 feet at Oklahoma City. This very interesting discovery was made by a corps of geologists of Oklahoma and New York who subjected the two sands to a series of rigid microscopic and chemist tests—not only as to the lithologic characteristics but also to the residuals, and the similarity was proved by finding the remains of the same kinds of minute sea life. This sand wherever drilled in Tennessee shows thickness of from 50 to 100 feet and is a true silica sand, overlying the Knox dolomite, and averages about 1,100 to 1,200 feet below the base of the Chattanooga shale.

The records available contain meager information as to results of drilling through this sand, and so far as obtainable the logs show very few wells in the northern tier of counties that have been deep enough to give it a thorough test.

During 1925 Defoe Brothers drilled a well on the Osgathorp farm in Brimstone Creek that passed through the St. Peter sand at 1,230-95 feet and, notwithstanding the well was located far down the western flank of the Tinsley bottom structure, the sand had a heavy gas pressure and a good showing of oil with the hole full of water. Later in the same year Chicago parties drilled in a well on the West Fork of Mill Creek and penetrated the St. Peter at about 1,300 feet, getting a good flow of gas the first 20 feet, then a heavy dose of salt water that ran over the casing. Geologists claimed this well was also off structure and the pressure of water seems to verify their claims. In 1927 a well was drilled on the Monroe farm 8 miles east of Livingston in Overton County where the St. Peter sand was picked up at about 1,760 feet and Knox dolomite at 1,822 feet. Considerable gas was found in the St. Peter which is said to have been sufficient to supply Livingston. A good show of oil was also reported. Blue Lick water at 2,024 feet caused the owners to plug the well. This well was also drilled without a geological determination of structural conditions.

Probably the most important test of the possibilities of the St. Peter sand was the well drilled by Blick & Son across the Cumberland River at Carthage where a very large gas well was found at 500 feet below the Pencil Cave. This well was only 800 feet deep and on a very pronounced structure and encourages the belief that where this sand is tested under proper geological direction it will prove commercially productive. Ordinarily it seems it may be expected at from 500 to 900 feet below the Pencil Cave. The discovery of the probabilities of the St. Peter came too late to be taken advantage of by the operators here during the former development campaign, and nearly all these wells were stopped 200 to 400 feet too soon, but some of the better organized corporations are already preparing to avail themselves of this new discovery. One large eastern concern is selecting five areas for intensive drilling and each will not only go through the St. Peter sand but also penetrate the underlying Knox dolomite 100 to 200 feet to pick up any porous streaks that may be found in the upper stratas of this well known member. Only domes or folds of considerable extent will be subjected to these tests.

Dry weather has seriously delayed the drilling of a number of tests, and news from the various sections of the State shows little progress. The deep tests of an eastern utility company at McMinnville and Sparta are drilling but progress is slow with nothing of interest found thus far. Dickson County is quiet and no wells finished.

J. V. McGuire of Winchester is reported to have sold several thousand acres of leases to a development concern seeking a gas field. He is drilling a well at Winchester and one on the Nashville Pike 12 miles north of Manchester. The Cumberland Oil Co., of New York, is drilling at 700 feet its No. 2 on Finis Ganett farm near Timothy in Overton County.

John H. McClurkin, an old timer in the industry, has closed a contract with William Smith of Carthage for drilling the first of three wells on structures he worked out three years ago. The first is to be on the farm of J. L. Woods on Little Trace Creek, 3 miles southeast of Spivey. Each of these wells will go to the St. Peter sand if satisfactory production is not found sooner—the present drilling is done in hopes of finding gas on the tops of the structures. Mr. McClurkin recently turned over his big gas

(Continued on Page 182)

Natural Gas Industry Developments

BOW ISLAND STORAGE PROJECT SATISFACTORY

CHATHAM, Ontario, Aug. 23.—A compressor plant of the Canadian Western Natural Gas, Light, Heat & Power Co. started to force waste gas from the Turner Valley Field into the exhausted sands of the old Bow Island Field a month ago. The experiment has since progressed to a stage where its success is regarded as assured. The storage of gas in the Bow Island sands is purely a conservative measure, and no immediate return from the investment is foreseen.

The project involved extensive plant and equipment. The home camp, consisting of office building, residences, stables and cook houses, is about 4 miles due north of Burdett, Alberta, while the compression plant itself is on the river bank 2 miles further north. James Morrison, field superintendent, has his headquarters at the home plant.

The Bow Island Field was for many years the sole source of natural gas supply for Calgary and other points on the Canadian Western system. It was first opened about 1912, and eventually 27 wells were drilled. Originally the field contained some 45,000,000,000 feet of gas at 750 pounds pressure or more; but approximately 40,000,000,000 feet have been used and pressure has dropped to around 250 pounds. In recent years the small remaining gas supply has been held as an emergency reserve. When the Turner Valley Field came into big production, the Canadian Western company decided to experiment with the possibility of storing the surplus in the Bow Island Field.

The plant comprises three 200-horsepower double-stage compressors, cooling system, electric-driven water pumps and auxiliary equipment. It is capable of forcing into the sand about 5,000,000 feet of gas per day. If, on protracted operation, the plant proves successful, it will be doubled to handle an aggregate of 10,000,000 feet a day. At present gas is being forced back into the field through three wells. It is estimated two years will be required to renovate, repair and put in shape the balance of the wells. The gas is brought through the company's pipe line from Turner Valley.

The compression machinery was installed by E. G. Orr of Tulsa, erecting engineer for Clark Brothers, the manufacturers. A Clark Brothers 90-horsepower vertical alternator unit, a short distance from the compressor building, supplies the electrical needs of the camp. Water pumps and lighting equipment are all operated by electricity.

Gas from the Turner Valley is brought to the compressor plant by the 16-inch pipe line and passes through an intake scrubber. The gas comes in under 65 pounds pressure, reduced in the scrubber to 40 pounds. Entering the compressor building, the pressure is increased to 145 pounds in the first compressor. When the gas is compressed, its temperature is increased. It is run through three intercooler coils, and returning is compressed to 320 pounds and once more cooled. A final scrubbing then removes any gasoline it may contain, after which it is forced into the three wells and thence into the porous sand. The three wells are within a radius of 1½ miles from the plant.

A pump house near the river bank with three electric pumps delivers a maximum of 600 gallons per minute water supply to the plant.

James Morrison is field superintendent for the company and E. G. Orr of Tulsa was erecting engineer for Clark Brothers. R. M. Gourlay was engineer in charge of general construction. D. K. Hutchcraft of Tulsa, representing Clark Brothers, was also in the field.

PROGRESS REPORT ON EXTENSIONS OF SOUTHERN NATURAL GAS CORP.

Fine weather conditions coupled with satisfactory delivery of needed materials has enabled the Southern Natural Gas Corp. to make the most gratifying progress on its $15,000,000 1930 program. The cooperation of manufacturers, railroad officials, and the loyalty of contracting forces have brought about the present stage of completion of the new 700 miles of extension at an average speed greater than was expected by the officials of the company when the plans were announced May 1.

At this time the lines are rapidly nearing completion, it being the opinion of the Natural Gas Engineering Corp. that the principal extension of the program, which is from Yazoo City to Mobile, will be completed and gas will be available for the latter city by September 1.

In addition to carrying forward the program of big line construction, the Southern Natural Gas Corp., through its associated companies, Mississippi Natural Gas Corp., Georgia Natural Gas Corp., and Alabama Natural Gas Corp., has caused the construction of 11 town distributing plants, and it is announced that work will begin immediately upon 10 additional town plants in the three states traversed by the main transmission system of the company. The Georgia Natural Gas Corp. will begin construction immediately upon distribution plants in Rockmart, Forsythe, Milledgeville, Thomaston and Barnesville, Ga.; the Alabama Natural Gas Corp. will begin construction immediately upon town plants in Opelika, Auburn, Tuskegee, and Wetumpka, Ala., and Mississippi Natural Gas Corp. has begun construction on a distribution system in Tupelo, Miss.

The program of the three major laterals as given out by Natural Gas Engineering Corp., follows:

Progress Report

Mobile Line.—On the Mobile line, which is 202 miles long, the survey has been completed. All of the right of way secured and cleared. All pipe and fittings are received and strung on the right of way; 87 per cent of the 14-inch pipe has been laid; 73 per cent of the 16-inch pipe is completed; and 69 per cent of the 18-inch pipe is completed. The line consists of 37 miles of 18-inch, 139 miles of 16-inch, and 26 miles of 14-inch pipe. The company has 10 crews working on this line, with a total of 1,450 men. These crews include two on river crossings and one setting gates. It is estimated this line will be completed, including river crossings, before the end of August. Branches from this line run to Bogalusa, La., and Gulfport, Miss. The Gulfport branch is approximately 60 miles long, and the Bogalusa branch is 75 miles long. Pipe is being shipped for both of these branches and construction started last week. The survey has been completed and right of way clearing is already under way on both of these lines. Pipe has been received at Canton, Miss., for the lateral line to Canton. Pipe is being shipped now for the lateral lines to Laurel and Hattiesburg, Miss.

Macon Line.—This line starts near Atlanta, Ga., and runs through Griffin, Ga., with 12-inch pipe. From there south through Macon to a point about 15 miles east of Macon is 10-inch pipe and from the end of the 10-inch is 8⅝-inch to Milledgeville. There is also a 6-inch branch from the end of the 10-inch line to McIntyre, Ga., and a 4-inch line takes off from the 10-inch line and runs to Dry Branch. A 4-inch lateral runs from the 10-inch to Forsythe, Ga., and a 6-inch lateral takes off from the 12-inch and runs to Griffin. A 4-inch line approximately 22 miles long runs from the 12-inch to Thomaston, Ga. The entire right of way, including all laterals and branch lines, has been surveyed, and practically all of the right of way has been purchased; 71 miles of right of way have been cleared to date; 68 miles of pipe has been strung on the right of way; 46 miles of pipe has been laid. It is anticipated that this line will be completed about September 15, but it is expected to have gas in Griffin and Macon about September 1.

Montgomery Line.—This line consists of approximately 104 miles of 12-inch line, starting at Tuscaloosa and running southeast to a point north of Selma, turning due east to a point north of Montgomery, in Elmore County. From this point the line continues east with approximately 80 miles of 10-inch pipe to a point near Phoenix, Ala., opposite Columbus, Ga. The lateral lines run to Selma, Montgomery, Wetumpka, Tuskegee, Auburn and Opelika. All of the right of way on the main and lateral lines has been surveyed and about 97 per cent of it has been purchased; 102 miles of right of way have been cleared; 85 miles of pipe are strung on the right of way; 39 miles of pipe have been laid. Work is proceeding on the various river crossings and a large amount of blasting will be necessary at the crossing of the Tallapoosa River, near Tallassee. It is expected to have gas in Selma and Montgomery sometime between September 1 and 10.

TWIN STATES NATURAL TO BUY MIDLAND GAS

NEW YORK, Aug. 25.—Consolidation of two natural gas companies organized within recent months was announced by President Edward R. Berry of the Twin States Natural Gas Co. This company has completed preliminary negotiations for the acquisition of a controlling interest in the Midland Natural Gas Co. In addition the company will acquire further holdings adjacent to its present properties in West Virginia and Kentucky.

Dr. Berry said: "This proposed merger is directly in line with the inevitable trend in the natural gas industry to bring together separate operating units into large groupings as a means of effecting more efficient and economical operation. The properties of these two companies, located as they are, close within the same natural gas producing area, lend themselves naturally to the process of integration."

The Midland Natural Gas Co. owns and operates natural gas properties in Pennsylvania and West Virginia, and its present holdings are in excess of 38,000 acres, containing over 350 producing gas wells, with a daily production in excess of 13,000,000 feet.

Upon completion of these negotiations the Twin States Natural Gas Co. will own and operate, directly or through its subsidiaries, natural gas properties totaling more than 57,000 acres in Pennsylvania, West Virginia and Kentucky, containing more than 450 producing wells with a daily production rate in excess of 26,000,000 feet and estimated gas reserves of more than 300,000,000,000 feet.

Over 90 per cent of the gross income from the company's properties, including those presently to be acquired, is derived from the distribution of gas at wholesale under contracts to a number of the largest purchasers of natural gas in the East, among which are Hope Natural Gas Co., Peoples Natural Gas Co., the Manufacturers Light & Heat Co., the Natural Gas Co. of West Virginia, United Fuel Gas Co., Warfield Natural Gas Co., subsidiaries of the Columbia Gas & Electric Corp.; Carnegie Gas Co., Cumberland and Allegheny Gas Co., Clendenin Gasoline Co., subsidiary of Union Carbide & Carbon Corp.; Monongahela West Penn Public Service Co., Godfrey L. Cabot, Inc., West Penn Public Service Co., South Penn Oil Co., Equitable Gas Co., subsidiary of Philadelphia Co.; Hamilton Gas Co., Kentucky-West Virginia Gas Co., subsidiary of Standard Gas & Electric Co., Ohio Valley Gas Corp., Montgomery Gas Co., subsidiary of Inland Utilities, Inc., and Columbian Carbon Co.

CALIFORNIA COMMISSION FAVORS SERVICE CHARGE

LOS ANGELES, Calif., Aug. 25.—The service charge method of fixing rates for gas and electric service is much more equitable than the minimum bill method, according to a statement issued by the State Railroad Commission.

Although the minimum bill method has been used by the commission in fixing interim rates, it was announced that when permanent rates for natural gas service are established it is the present intention of the commission to adopt the service charge basis.

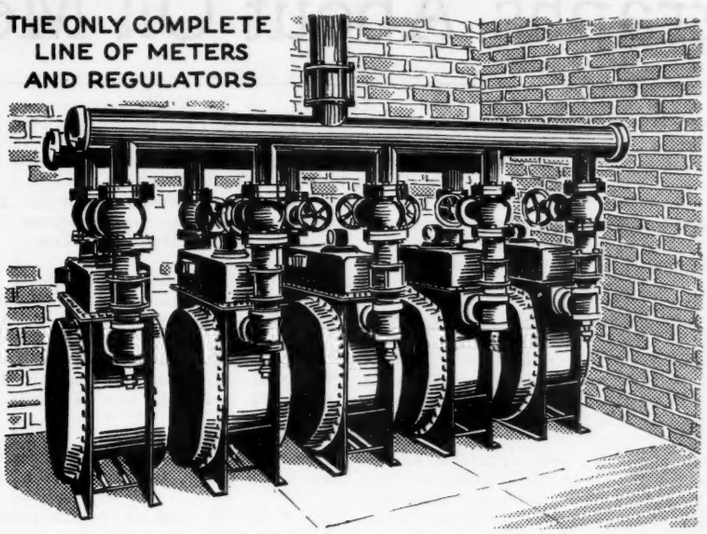
Claude C. Brown, gas and electric engineer of the State Railroad Commission, says:

"It is and has been the custom throughout the country, for many years past, for public service utilities serving commodities such as gas and electricity to incorporate in the rates under which they sell these commodities either a monthly service charge which carries no commodity, or a monthly minimum charge, which carries a small quantity of the commodity. The reason for the inclusion of this service charge or minimum charge in the rate is simply this—that the utility incurs certain costs in rendering service to each consumer, which costs are practically constant whether he uses large quantities of the commodity, small quantities or none at all.

"These costs are practically the same for all consumers and include such costs as the following: The inspection, upkeep, operation and repairs to the consumer's gas service pipe, electric line, regulator and meter; the interest on the money invested in this equipment; the reading of the consumer's meter every month; the making out of his monthly bill; the delivery and collection of said bill and the office expenses incurred in keeping his account.

"The sum total of these costs will average around $1 per meter per month and the application of the service charge or minimum charge is for the purpose of collecting at least a portion of these monthly costs from every consumer, in as much as every consumer incurs such costs regardless of the quantity of the commodity which he uses.

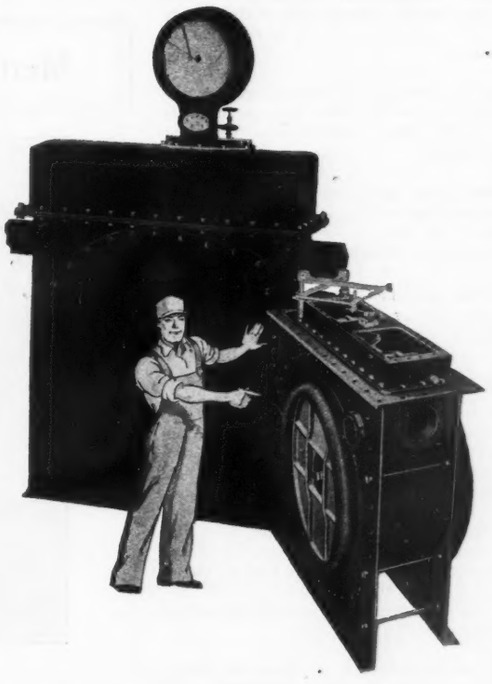
"If the service charge or minimum charge is not set out in the rate so that each and every consumer pays it as such, or if it is so small a charge as to pay only a small portion of the actual costs above mentioned, then the small or convenience user who uses little or no gas or electricity escapes paying his share of such costs and they must be included in the commodity rate, thereby increasing the same, and must be paid by those consumers who use substantial quantities of the commodity such as those who are raising families and have homes and who do their own washing and cooking."



FOR INDUSTRIAL INSTALLATIONS -EMCO 5's

Requiring slightly over four square feet of floor space and just over three feet in height, the compactness of this meter is greatly appreciated for manifold installations. The entire assembly weighs approximately 900 pounds.

The pressed steel case construction; Rolling type diaphragms, mounted on terne iron pans reinforced to maintain absolute rigidity; Diaphragm drains; Patented tangent adjustment; Flag rod and movement so mounted to eliminate friction; Exclusive valve arrangement; Interchangeability of all parts; Moving parts cadmium plated; these features combine to produce a meter that will measure accurately 10,000 cu. ft. of gas per hour with a pressure drop of less than two inches of water.



EMCO PRINCIPLES

Rolling Type Diaphragm - All Parts Interchangeable
Steel Case - Rugged Beyond Compare
Easily Repaired - In The Line

EMCO METERS AND REGULATORS

PITTSBURGH EQUITABLE METER COMPANY

Main Office and Works—Pittsburgh, Pa.

New York City, Chicago, Ill., Los Angeles, Calif., Tulsa, Okla., Dallas, Texas, Columbia, S. C., Salt Lake City, Kansas City, Mo., Seattle, Wash., Houston, Texas

Personal Paragraphs About Oil Men

Andy Edwards of Black, Sivalls & Bryson with his family is enjoying a vacation at Noel, Mo.

* * *

L. O. Stine, with the Pure Oil Company at Wichita, Kans., has been transferred to the Cushing district.

* * *

W. A. Wainwright recently returned to San Antonio, Tex., from Houston where he spent several days on business.

* * *

H. Y. McCants, Tulsa representative of the E. D. Bullard Company, has returned from a business trip to Houston, Tex.

* * *

G. H. Fagaines, assistant purchasing agent, Gypsy Oil Company, with his family has gone to Pineville, Mo., on a vacation.

* * *

Randolph Wheless of the Gulf Production Company at San Antonio, Tex., is back from a vacation spent with his father and mother at Kerrville, Tex.

* * *

J. M. Kinavrew, vice president of the Standard Supply & Hardware Company, New Orleans, La., was a visitor in Houston, Tex., calling on the oil fraternity.

* * *

H. F. Gibson of the firm of Gibson & Johnson, Fort Worth, Tex., went to Muskegon, Mich., where the company has a district office, to be gone 10 days or two weeks.

* * *

R. S. Macmillan, president of the Macmillan Petroleum Company, has returned to Los Angeles following a trip to the Mid-Continent area, traveling both ways in a plane.

* * *

L. F. Rothermel, vice president and general manager of Deepwater Refineries, Inc., Houston, Tex., who sought relief for two weeks in the Rockies of Colorado, has returned to his office.

* * *

W. A. Kirk has resigned as vice president and secretary of the Exeter Oil Company to become president of the California Southern Oil Company with offices in the Pacific Southwest Building, Long Beach, Calif.

* * *

Ralph Emory, pipe line superintendent of the Vickers Petroleum Company, Wichita, Kans., has resigned. For a number of years Mr. Emory was in charge of the pipe line department for the White Eagle Oil & Refining Company.

* * *

Ed R. Eastin of the Gulf Production Company has returned from a two weeks' vacation in Northwest Texas and New Mexico, with a trip to Carlsbad, N. M., and a jaunt through the famous Carlsbad Caverns. A few days were also spent on the beach at Corpus Christi.

* * *

Ben Walker, superintendent of Seminole, Okla., Gasoline Plant No. 16 for the Pure Oil Company, is now assigned to the new Van gasoline plant of the Pure at Van, in northeast Texas. W. L. McCarty of the company's Drumright station is also assistant in constructing the Van plant.

* * *

John A. DeVine, assistant petroleum engineer, and John Rinehart, chief clerk, United States Bureau of Mines, Bartlesville, Okla., experimental station, are spending two months in a tour of European countries. Their itinerary will include Ireland, England, France, Germany, Switzerland, Italy and Holland.

* * *

F. W. Fraley, who has been division representative of the Sinclair Refining Company at New Orleans, La., has been in Houston, Tex., where he may make his home. Mr. Fraley has been actively engaged in the distribution end of the refining industry for many years and before going with Sinclair was with the old Pierce Corporation, which interests have now been acquired by Sinclair Refining Company.

C. C. Crawford, general sales manager of the A. W. Lockett Company, New Orleans, La., has been making a trip of inspection over Mid-Continent oil fields.

* * *

A. J. McDonald of El Dorado, Ark., is in Southwest Texas making his headquarters at San Antonio and expecting to start operating somewhere in that territory.

* * *

Bob Cook, sales manager of Byron Jackson Company, recently returned to Los Angeles from a trip to Bakersfield and Taft, returning by way of Ventura. His journey was marred by an attack of ptomaine poisoning, from which he has not fully recovered.

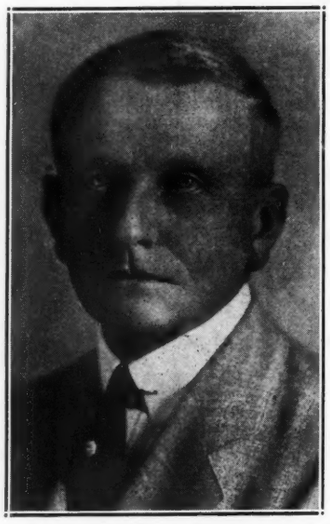
* * *

F. O. Martin, who has been a member of the geological staff of the Union Oil Company of California since 1919 and engaged principally in foreign exploration, has resigned in order to engage in independent consulting work.

* * *

Paul B. Whitney of Los Angeles, Calif., in charge of the land and geological departments of George F. Getty Company, and Mrs. Whitney are visiting relatives and friends in Denver. Mr. Whitney was formerly chief geologist in the Rocky Mountain region for the Sinclair interests.

Men in the Industry



M. J. McLaughlin

M. J. McLaughlin is another example of what hard work and steady application will do, for these two attributes have helped to put him on the board of directors of the Magnolia Petroleum Company.

Mr. McLaughlin was born and raised in Petrolia, Pennsylvania oil field town, and has been connected with the industry since he was large enough to take a job as roustabout in the Clarion oil fields in the same State. He gradually worked his way up to tool dresser, driller and superintendent, going to Electra, Tex., for the Magnolia Petroleum Company on January 1, 1912, after spending 13 years in the employ of the South Penn Oil Company in West Virginia.

Several years ago Mr. McLaughlin was transferred to Dallas, Tex., as assistant to the manager of the producing department, which position he now holds, and at the last meeting of the directors of the company he was elected to the board.

Mr. McLaughlin was married in West Virginia and has a daughter and one son. He is an ardent golfer and active club man.

Walter and Paul Hei[illegible]ngelo Petroleum, Inc., are in Chicago on [illegible]s. They will return about the middle of next [illegible]k.

* * *

Linn Park, president of Portable Rig Company, Houston, Tex., has returned from an automobile pleasure trip to Monterrey, Mexico.

* * *

R. B. Reilly, sales representative of the Ford Chain Block Company and H. D. Conkey & Company, is spending two weeks in Tulsa.

* * *

Paul Imel, superintendent of the land departm[illegible], Blackwell Oil & Gas Co., Cushing, Okla., has left for a trip to Arizona and California.

* * *

George R. Green, engineer for the Houston Car Wheel & Machine Company, Houston, Tex., is spending a two weeks' vacation in California.

* * *

J. F. Carter, manager of trade promotion for the Southern Pine Association, New Orleans, La., is in New York City on a short business trip.

* * *

Haymond Willis has been transferred to Houston, Tex., from San Antonio by the Magnolia and is in charge of the land department of the Houston office.

* * *

S. B. Mosher, president of the Signal Oil & Gas Company, has returned to the company's principal office at Los Angeles following an absence of three months abroad.

* * *

James B. Nash, sales representative of the Christy Fire Brick Company, St. Louis, whose territory embraces Tulsa and other points in Oklahoma, is visiting the trade.

* * *

Charles S. Jones, vice president and treasurer of the Rio Grande Oil Company, has returned to the company's Los Angeles office following an absence of several weeks spent in New York.

* * *

Charles Frayer Kimball, field representative of the Prairie Oil & Gas Company in the Shawnee-Seminole district, Oklahoma, returned to his old home at Sistersville, W. Va., by airplane for his vacation.

* * *

H. H. Beck, landman in charge of the San Angelo office of the Independent Oil & Gas Company, and Miss Lila Marberry of that city were married August 15 and left for Galveston and Houston on their honeymoon.

* * *

Harry Duvall is off for South Africa, expecting to sail from New York about September 1. Mr. Duvall represented Gardner-Denver Company in the San Antonio territory. His transfer to South Africa is a promotion. He will be district manager for the Gardner-Denver Company in South Africa.

* * *

Dr. George Otis Smith, director of the United States Geological Survey, accompanied by his daughter, Helen Coburn Smith, who has been a delegate to the Sigma Cappa Sorority Convention delegate to the Sigma Kappa Sorority Convention at Seattle, have left Los Angeles for Washington.

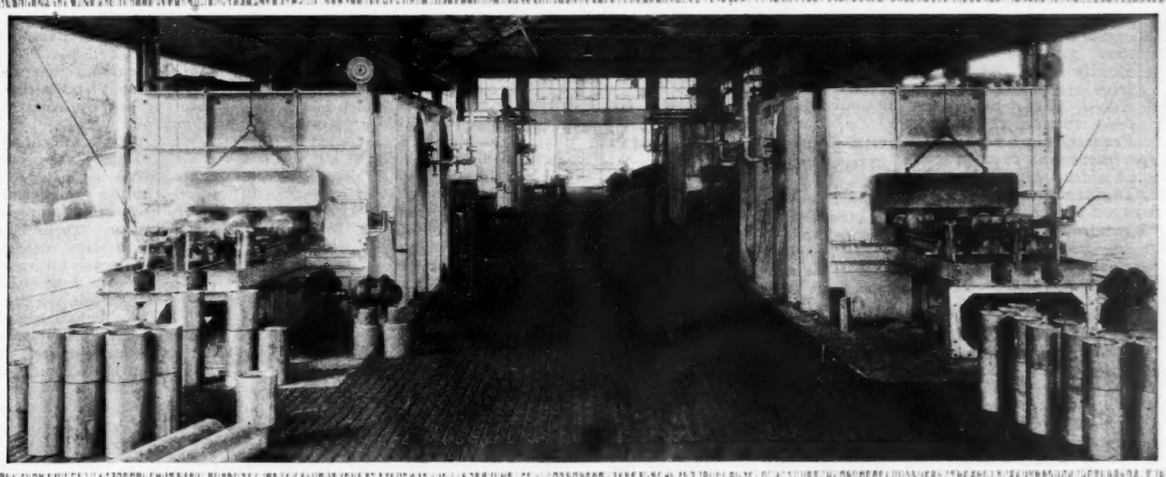
* * *

Col. T. H. Barton, president of the Lion Oil Refining Company, is in San Antonio, Tex., on a business trip. He has been spending some time in southern Victoria County where the company has a large block of acreage, much of which has been proven as productive of gas by the bringing in of the company's No. 1 McFaddin.

* * *

C. C. Pope of the Sun Oil Company, Fort Worth, Tex., has been promoted to district landman for that company. He has been scouting for the company in the Permian Basin for several years and is well known in that district. Preston E. Langley of the same company will scout New Mexico and the area in the Permian Basin north of the Texas & Pacific Railroad, and another man will be transferred to scout the area south of this railroad.

Only a few years ago it was necessary to depend on an iron pipe line valve to close in a well. It was a "make shift" piece of equipment—and the results were far from satisfactory.



After a thorough survey of the Industry's needs, Hughes Tool Company Engineers designed a Chrome-Nickel Steel Drilling Valve capable of giving satisfactory performance under extreme working conditions.

The value of this valve was so evident that other leading manufacturers soon duplicated its design—and in so doing, joined with operators and contractors throughout the world in complimenting another service achievement of Hughes Tool Company.

However, only in Hughes Valves can the purchaser obtain the Hughes standard of material and skilled workmanship—major factors in giving to the finished product its superior performance qualities.

HUGHES TOOLS
Sold by
Supply Stores
Everywhere

HUGHES TOOL COMPANY

Service Plants
Los Angeles, Calif.
Oklahoma City, Okla.

Main Office and Plant
HOUSTON,
TEXAS

Export Offices
Woolworth Building
New York City, N. Y.

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

SULPHUR CONTENT OF GASOLINE AND DOCTOR TEST

If a gasoline is sweet to the Doctor test, is it possible for it to have over 0.1 per cent sulphur content?—S. H.

So far as we are informed it appears safe to say that a gasoline sweet to the Dctor test will be found to contain less than 0.1 per cent total sulphur. There are a few exceptions to this. According to A. J. Kraemer, United States Bureau of Mines Survey of Commercial Motor Fuels, January, 1930, 158 samples of gasoline were collected in different parts of the United States. Sulphur determinations were made on all except five.

Of the 153 samples for which results are reported 140, or 91.5 per cent, had 0.10 per cent of sulphur or less, and therefore complied with federal specifications for motor fuel, which permit a maximum sulphur content of 0.10 per cent. In 131 samples, or 85.6 per cent, the sulphur content was 0.08 or less. In only 13 samples, or 8.5 per cent of the total number, the sulphur content was above the limit set by federal specifications. This compares with 5.4 per cent containing over 0.10 per cent sulphur in the survey of July, 1927.

Between 85.6 per cent and 91.5 per cent of the samples did not constitute a problem in reduction of sulphur content. The remaining 13 samples, or 8.5 per cent, that had more than 0.10 per cent of sulphur, may or may not have been specially treated to reduce sulphur content, but at any rate the treatment was not successful in reducing the sulphur content to the maximum permitted by federal specification.

Twenty-eight samples, or 17.7 per cent of the total number, were positive to the "Doctor" test. This number includes four of the five samples for which the sulphur content was not determined and three of the 13 samples which had more than 0.10 per cent of sulphur. In other words, 21 of the 140 samples, or 15 per cent, that had 0.10 per cent of sulphur or less were positive to the "Doctor" test, and seven of the remaining 18 samples, or 38.8 per cent, of those that had more than 0.10 per cent of sulphur, or for which the sulphur content was not determined, were positive to the "Doctor" test. This result indicates a closer correlation between sulphur content and the "Doctor" test than was shown by the samples in the survey of July, 1927. However, a study of individual instances corroborates the general conclusion that "Doctor" test and sulphur content do not run parallel. For example, a sample from St. Louis was positive to the "Doctor" test, and had only 0.01 per cent sulphur, whereas one from St. Louis, with 0.16 per cent sulphur, and one from San Francisco with 0.18 per cent sulphur, were negative to the "Doctor" test. There were a number of similar instances.

WATER AND SEDIMENT DEDUCTIONS PIPE LINE RUNS

What is the method of figuring the b.s. deduction from pipe line run tickets? I understand that 1 per cent is allowed and would like to know the method of determining the amount to deduct when it exceeds 1 per cent?—E. T. W.

The permissible quantity of sediment and water in crude oil that is offered to the pipe lines may vary from 1 to 3 per cent. In a few places there is no quantity specified but deduction is made on the basis of the quantity actually found. The expression b.s., basic sediment, commonly includes both sediment and water that may be separated from the oil by means of the centrifuge and a distillation. If the quantity exceeds that stipulated by the pipe line, the oil cannot be run.

The usual percentage set as a mixi-mum in Kansas and Oklahoma is 3 per cent. In the Eastern district, such as New York, Pennsylvania, and southeastern Ohio, the limit is 2 per cent. The pipe lines of Texas allow 2 per cent, with the exception of the heavy coastal oils; these are accepted on a 1 per cent basis.

Sediment and water are allowed for when strapping the stock tanks. If the deduction is 3 per cent, the tanks are strapped to show 97 bbls. for each 100 bbls. capacity of liquid.

All oil which tests a higher quantity of water and sediment than that permitted must be rejected as being below pipe line quality. Any other arrangement would soon prove embarrassing to the transporting company because of the accumulations of sediment in the lines and tanks.

The stipulated quantity of sediment and water which is deducted does not mean that the oil contains some definite percentage, in fact, it seldom contains anything near the limit, but is a deductable allowance for handling losses in addition to whatever foreign matter may be present.

MERCAPTANS FOR ODORIZING GAS

What chemical is it that is added to gas to give it a strong odor? Are there any objectionable features for treating gas this way? Can you give me some information about the proper quantity to use?—A. G. C.

It is desirable that all forms of gas used for domestic purposes should have a distinct and characteristic odor, because it may be the means of avoiding serious consequences that may follow a large leak of gas. Much of the natural gas, and especially the liquefied gas made from natural gas, has only a very slight odor. The addition of some substance with a strong odor to serve as a warning agent in case of leakage is a practice to be encouraged.

The Bureau of Mines has recently announced an investigation of the use of mercaptans for this purpose. The mercaptans are compounds that may be prepared from many different petroleums by the simple process of distillation and extraction. They are compounds of carbon, hydrogen and sulphur. The mercaptans may be arranged in a series, the lowest member being methyl mercaptan, the next ethyl mercaptan, etc. The boiling points of the mercaptans increase with weight, so the lower members are best suited for odorizing gas. Ethyl mercaptan may be obtained in large quantities and seems to be well adapted for use as a warning agent.

Ethyl mercaptan is a liquid, density 0.8623 or 32.6 A.P.I., which has a very intense, disagreeable odor, detectable in dilutions as high as 1 part ethyl mercaptan in 1,000,000,000 parts of air, and will give warning to conscious persons in concentrations of 1 part ethyl mercaptan to 15,000,000 parts of air or 0.01 pound per 1,000,000 cubic feet of air. It is by virtue of this disagreeable odor that it quickly elicits attention and response when used as a warning agent.

The odorizing of natural gas with ethyl mercaptan was found to be a practical means for detecting leakage and a much cheaper means than usual inspection methods.

Concentrations of 7.7 to 9.3 pounds of ethyl mercaptan per 1,000,000 feet of gas wre found very effective in indicating house leaks. It is thought that half that quantity or even less would be ample to indicate leaks of significant magnitude.

Concentrations of 31.0 to 46.5 pounds of ethyl mercaptan per 1,000,000 feet of gas were found effective in indicating underground leaks in mains and service lines.

The use of ethyl mercaptan caused no complaints from customers unless leaks were present.

COMPOSITION AND CLASSIFICATION OF OILS

Would you please give me the aliphatic hydrocarbon percentages maximum and minimum of the various base crudes and lubricants? Where are the lines generally drawn as to what is paraffin base, mixed base, naphthene base and high-grade Pennsylvania? Are these wax-free crudes suitable for cylinder stock?—E. W. S.

The word aliphatic was coined very early in the study of organic chemistry for the purpose of classification. It was recognized that some carbon compounds were related to certain fatty substances and this Greek word, aliphatic, was introduced to describe this group of compounds. It is now known that these substances are derivatives of methane, and the whole group is called paraffin hydrocarbons. The word paraffin means little affinity, that is, the paraffin hydrocarbons do not readily unite with other substances, and the scientific use of the word has no relation to the presence of wax. The first or lower members of the group are gases under ordinary conditions, while the higher members, those containing larger quantities of carbon, are solids.

When making a study of crude petroleum it is the common practice to make a classification on the basis of paraffin wax, asphalt, etc. The presence of wax may be detected by means of a simple test and asphalt is usually indicated by the color of the oil. There are many crudes that contain both paraffin wax and asphalt, so such oils are called mixed base crudes. Some petroleum free from wax and asphalt has been found. This kind of oil contains a number of hydrocarbons of a particular structure known as naphthenes. These compounds cannot be recognized except by chemical and physical tests, and are called naphthene base crudes. They are frequently found having but little color, but most of them contain enough asphaltic substances to darken the oil. There are several grades of Pennsylvania crude and the term "high grade" refers to the better oil. All of these oils are used for the manufacture of the various grades of lubricating oil.

A statement of the percentage of the different hydrocarbons that may be contained in an oil would require more space than is available here. Day lists in Handbook of the Petroleum Industry 445 hydrocarbons that may be found in petroleum but states that half of these have not been reported as being present in any oil.

When petroleum is distilled there is a gradual change in the composition of the hydrocarbons separated; each succeeding fraction shows an increase in the carbon percentage while the proportion of hydrogen decreases. There is a tendency toward unsaturation with rise in temperature and also the formation of solid material. There is some question that many of the compounds reported found in petroleum are really present in the crude oil; they have probably been formed by the action of heat, etc. Gurwitch-Moore reports in Petroleum Technology, Page 11, the composition of the fractions from a Baku petroleum:

	Carbon %	Hydrogen %
Naphtha	84 86	15.14
Machine oil	86.20	13.80
Cylinder oil	87.30	12.70

"It was formerly the general opinion that Pennsylvania petroleum consisted principally, and its lower fraction almost exclusively, of hydrocarbons of the methane series. Closer investigation has, however, shown that it also contains naphthenes and aromatic and other hydrocarbons, though in much smaller proportions than the saturated aliphatic hydrocarbons."

HEATING VALUE OF OIL FROM GRAVITY

In your issue of July 24, on page 80, you published a formula for calculating the heating value of oil from the gravity. I would like to ask if this formula will apply to refined oils, particularly fuel oil and light distillates?—C. V. B.

In the original article by Sherman and Kropff, Journal of the American Chemical Society, Vol. 30, Pt. 2, page 1,626, 1908, numerous examples were given illustrating the relation between the determined heating value and that found by means of their formula. These data covered a wide range of gravities, many of which would fall in the group of fuel oils and light distillates. The formula has been used very extensively for calculating the B.t.u. equivalent of fuel oils and is generally accepted as a reliable method for estimating the heating value of liquid petroleum products.

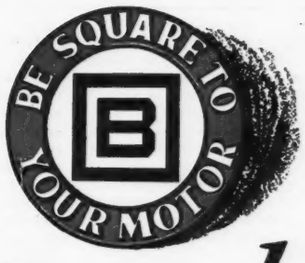
ADHESIVE FOR CANVAS

Is there an adhesive substance that will hold its bond in the presence of oil? I am interested in a canvas to canvas bond.—E. J. S.

The conditions are not clear. If the adhesive is to be applied in the presence of oil it would be a different problem than if oil was introduced after the material had become glued together.

If the cloth is not to be exposed to the weather, that is where moisture can reach it, a good grade of glue which is thoroughly worked into the pieces and pressure applied until nearly dry should give a satisfactory bond. Sodium silicate is used for binding cloth together. Applications of hot asphalt are frequently used for applying canvas to pipe and towers that are exposed to the weather. If desired, a final coat of paint may be applied.

asked for this *emblem* in 13 weeks



When car owners throughout the Middle West, from North Dakota to Texas and from Colorado to Ohio, flock by the thousands . . . to stations displaying the blue BE SQUARE to obtain one of the red, blue and gold emblems of the *Be Square To Your Motor Club* for the radiator of their car . . . it is a significant sign for the Independent Jobber that Barnsdall has sold in a few short weeks a definite idea in BE SQUARE service. These thoughtful motorists are *looking for the blue* BE SQUARE, *the identification of the Barnsdall distributor.* ¶ How many could stop at your station? . . . Let us give you the complete story, write today to The Be Square To Your Motor Club . . . P. O. Box 2091, Tulsa, Oklahoma.

Barnsdall

FIRST B REFINER

Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

SETTLING OUT CUTTINGS

Methods used for settling out cuttings in rotary drilling in this area are not very satisfactory. Can you tell me what means seems to be the most effective in other fields? A common practice among drillers here is to put crude oil in the mud after they have got down several thousand feet. Is this good practice?—R. D. S.

R. S. Cartwright, Ponca City, Okla., provides the following information in answer to your questions:

"The most effective method which I have found for settling out cuttings is the use of a long ditch or conductor, through which the mud must pass as it is discharged from the hole. It has also been found that passing it through a settling pit, where it is forced to spread out over a wide area, is also effective for this purpose and leaves the circulating pits free of foreign matter. If the weight of the mud will not be too seriously reduced it is also advisable to inject a small stream of water into it as it is discharged from the hole, in order to facilitate removal of the cuttings.

"There is a general opinion among some drillers that the deeper a well is drilled the heavier the mud should be. This theory cannot be sound, for mud performs the same functions at 5,000 feet that it does at 2,000 feet and any increase in weight will result in the conditions already referred to. This is assuming, of course, that heavy gas pressures will not be encountered. If such is the case the mud must be as heavy as is practical to handle, or rather, sufficient to maintain hydrostatic pressure at the bottom of the hole to more than equal the sand pressure.

"It is common practice with some operators, after reaching considerable depths to use some crude or fuel oil in the mud, their purpose being to provide a lubricant and a solvent for shale cuttings which might settle around the cutting tool if circulation were suspended. The writer has found that the addition of oil for this purpose is not desirable, as its actual effect is to coat the finely divided cuttings, as in the flotation method of ore separation, making it almost impossible to get them to settle out. There is the further objection that a mud mixed with oil is difficult to handle in the slush pumps, as it has a solvent action on the balata valve disks commonly used in mud pumps. He suggests that the concentration of oil be not permitted to reach more than 2 per cent by volume.

"If the cutting tool is stuck, and can neither be hoisted nor rotated due to cuttings settled around it, it is often possible to free it by circulating oil. On the few occasions that it has been possible for the writer to check the concentration of oil required for this purpose, it has been found that not more than 24 per cent by volume is necessary, although in extreme cases pure oil and not an emulsion with mud is required."

GATE VALVE GIVES TROUBLE

Do you know of any simple way of making a gate valve in a pipe line work when it sticks? We are troubled a good deal by this. Where we leave a gate open for quite a length of time with oil running through it and then want to close it we can't get a complete shut-off. I have noticed that the gates that don't work right are usually in low spots on the line and I have wondered if the trouble could be caused by dirt settling in the valve. Would rust or corrosion be likely to cause the trouble? Perhaps you know of other cases like this and can tell me what has been done.—W. U. O.

From the above questions it would seem that this gate valve has been installed at a place in the line where the fluid passes through the valve at low velocity and therefore sediment of some kind has settled into the valve seat.

The first thing to do would be to shut down the line and remove the bonnet from the valve that is giving trouble and determine exactly what type of sediment has lodged in the valve seat.

When this is known it might be found possible to introduce a screen at some point in the line to eliminate such foreign material as sand and gravel, or it might be best to place a separator just ahead of this valve located at a low place in the line and cause all foreign material to flow over it and drop into a pocket under the line. This pocket can be provided with a blow-off cock and the sediment removed at frequent intervals.

It might also be possible to clean the line by the use of a go-devil and in this way remove sediment and foreign material so that the small amount still left in the line would be carried in the current of oil and the valve seat remain clean at all times.

The products of rust or corrosion might settle in a valve placed at a low point, but if the separator or pocket is placed on the upstream side of the valve such material should drop out and be entrapped before it had opportunity to settle in the valve.

In making the above statements it is assumed that the line is carrying oil at a low velocity and this will account for it settling out at this low point for under normal pipe line velocities sediment that entered the line with the fluid should be moved along with it to the discharge end unless sharp bends either in a vertical or horizontal direction are made where current velocity would be retarded to a speed that could no longer carry the larger particles of foreign matter and they would then settle and roll along the bottom of the pipe line until entrapped in such places as valve seats or low spots in the line.

LOW FLANK OR HIGH FLANK?

Differences of opinion seem to exist as to whether it is best to drill first low on the flank of a structure or high on it, although from what I have read on the subject a majority of the country's petroleum engineers seem to favor locating wells low on the structure and then moving upward as the area is developed. Can you tell me what the best accepted practice is in this matter and some of the reasons why either procedure is regarded as better than the other?—N. F. S.

Until such time as unit operation of oil pools is put into practice more generally than now discussions of this problem will be more or less academic in character because the company or individual owning leases over an oil pool must be guided by the property lines of the holdings rather than by the structural outlines of the formations in which the oil and gas is found.

Engineers and geologists seem to agree upon the theory that it is desirable to locate the first wells to be drilled in any pool on the low flanks of the structure.

This is because it is assumed that water always lies adjacent to the oil in the lower edge of the structure and by proper control of gas-oil ratio and the maintenance of controlled pressure upon the reservoir the oil can be withdrawn and delivered to the surface in the most economical manner, and at the same time the largest possible recovery be obtained.

If the structure could be mapped by the use of geophysical instruments before drilling was started and the first wells drilled on the low-flank or on the down-dip portions of the formations, and then succeeding wells drilled higher up the structure progressively as the oil is withdrawn from the first wells, it seems reasonable to assume that the sands would be washed clean by the combined gas and water action.

The gas is under pressure in the upper part of the structure, assuming that it is an anticline, and in most cases the edge water is under hydrostatic head in the lower portion of the formation, and the oil is therefore between two sources of energy, which if properly controlled would tend to force it out of the reservoir with the maximum amount of recovery possible considering the total amount of original energy available when the pool was opened.

This line of reasoning is concurred in by most technical men, but unfortunately surface boundary lines of leases play a much more important part in the location of wells than the natural laws governing the accumulation of gas, oil and water, and until man will recognize that natural conditions are unalterable,, and instead of giving first consideration to man-made markers on the surface, will plan his operations to work with, rather than against, natural forces, it will be almost impossible to put these theories to test. So while it may be said that one method of production is better than another at this moment, there are no actual pools worked out on the above outlined plan so far as recorded data shows, and little or nothing has been proven.

WHY WAS IT CALLED THAT?

WATER KNOCKOUT

This piece of equipment is really an oil and water separator, but the production man seems to have a liking for emphatic terms and therefore has applied the term "knockout" to the apparatus. When the term was used first to describe equipment of this kind would be difficult to determine, but steam engineers long have applied it to steam separators and it is used around refineries in connection with fractionation.

WET GAS FIRST CHOICE

If any facts or statistics have been gathered to show which of the different agencies for repressuring operations—that is, air, wet gas, dry gas, etc.—is the best, I would like to know what they show. So far as my information goes it seems to be about an even break between air and wet gas although dry gas seems to have its friends too.—S. Y. F.

Opinion of petroleum engineers is divided as to the best medium for repressuring operations, but wet gas seems to lead, with air and dry gas fairly close seconds. H. C. Miller, of the United States Bureau of Mines, says in a paper dealing with the subject of repressuring that wet gas and air are considered by the majority of engineers as preferable to dry gas and other gases. He offers the following table showing the opinions of 13 engineers as to the comparative values of seven different gases with respect to increasing the quantity of oil produced in repressuring operations:

	Choice						
Gas used—	1st	2nd	3rd	4th	5th	6th	7th
Air	4	..	4	2	2	..	..
Dry gas	2	8	2	1	..	..	..
Wet gas	7	2	1	..	..	..	..
Propane and butane	..	2	2	1	..	..	..
Exhaust gas	..	..	..	..	1	1	2
Hot gas and hot air	..	..	..	1	..	2	1
Tail gas from refineries	..	..	1	..	1	1	1
No preference	..	1	3	8	9	9	9

Following are some of the arguments presented for and against the use of the gases listed in the question:

Air. Slightly better propelling medium than dry gas, but causes excessive corrosion of well equipment. In old fields, air is usually the only gas available. Air-gas mixtures, however, are highly explosive.

Dry gas. Does not corrode the equipment in the well. Gasoline plant recovery is not affected as it is when air is used. Gas is usually available and relatively inexpensive, except possibly in old fields.

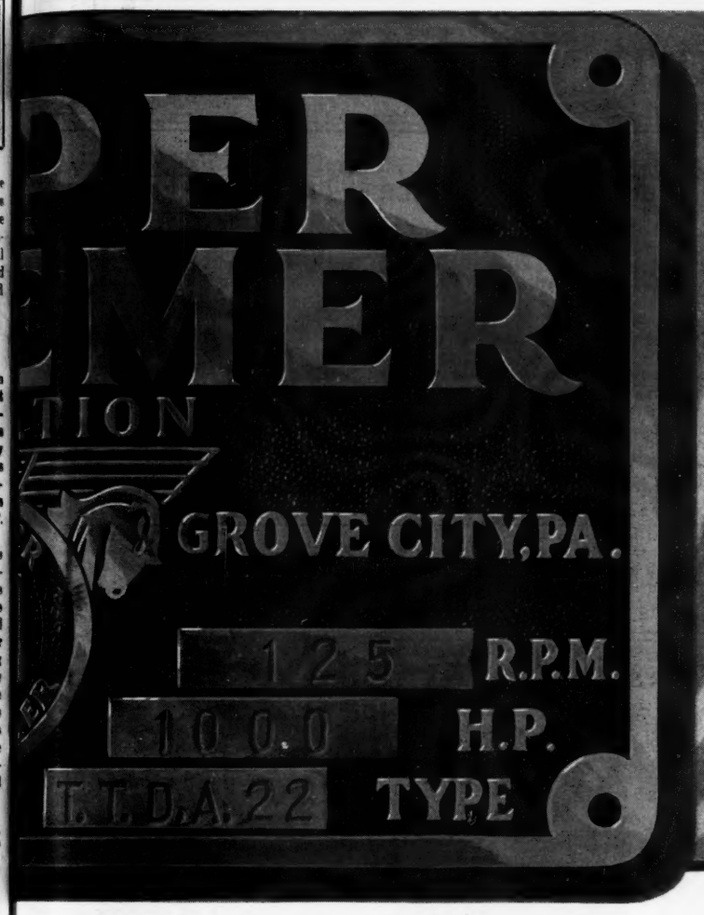
Wet gas. Ultimate recovery will be greater when wet gas is used than when either air or dry gas is injected into reservoir sands. Whether or not it is economical to inject wet gas, with its valuable gasoline vapors, must be considered when comparing the value of wet gas to air or dry gas as a repressuring medium.

Propane and butane. This gas will probably wash the sands clean of oil, and increase ultimate recovery from reservoir sands above that obtainable by other gases, but usually sufficient quantities of propane and butane are not available to repressure extensive areas.

Exhaust gas. This gas will cause less corrosion of well equipment than air, but otherwise has no advantage over air as a repressuring medium.

Hot gas and hot air. Raising the temperature of the input gas and air will probably result in a recovery of larger volumes of oil than when cold gas or cold air is used as the injection medium, but it is not economical usually to go to the expense of heating gases for injection purposes.

Tail gas from refineries. This gas may be usel to advantage where refineries are in close proximity to oil fields. It is probably equal to dry gas as a medium for repressuring purposes.



ER THAT SERVES FIELD NEEDS:

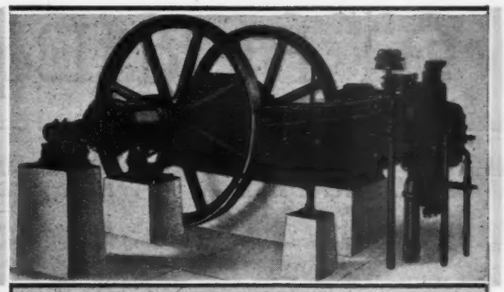
natural
artificial
traction
athering gases
G
NG
es

GENERAL

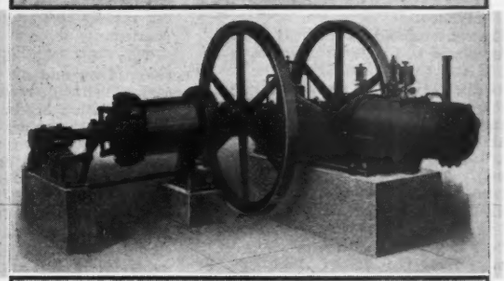
Belted power
Direct-driving A.C. and D.C. electric generators
Driving pumps — industrial and irrigation
Diesel driving rotary blowers
Diesel driving line shaft through couplings or clutches
Auxiliary power plants
Main power plants

e information on Cooper-
from 15 to 1500 B. H. P.;
gines from 50 to 200 B. H.
n 75 to 1500 B. H. P.

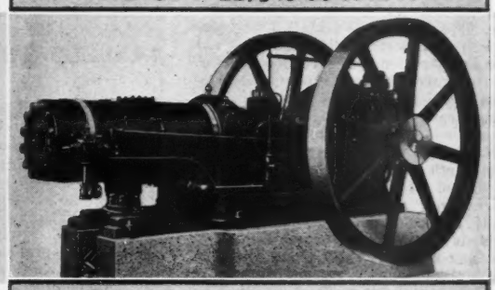
E IN CHOOSING
ESSEMER



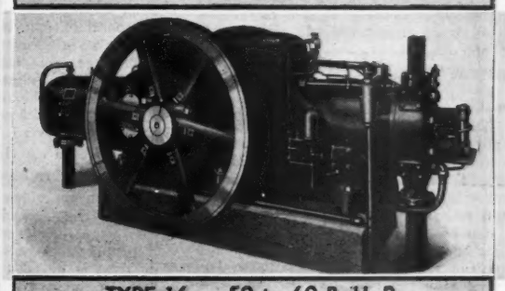
TYPE GF — 25 to 60 B. H. P.



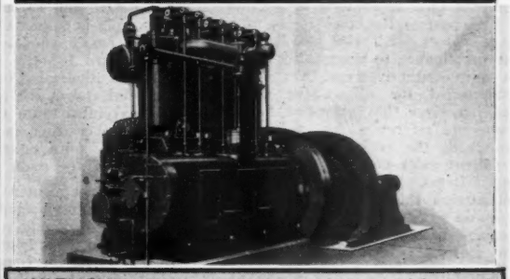
TYPE GB — 22½ to 30 B. H. P.



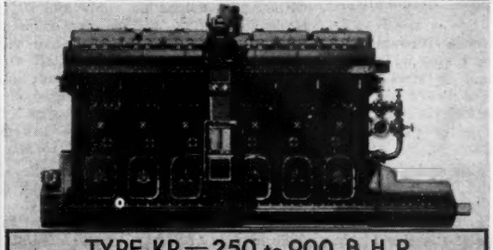
TYPE GD — 15 to 200 B. H. P.



TYPE 16 — 50 to 60 B. H. P.

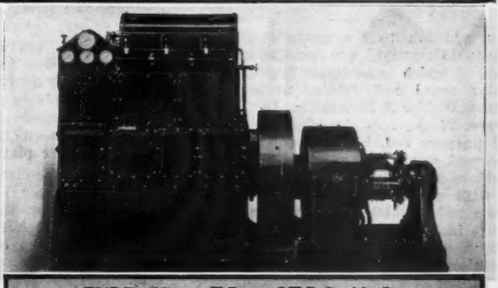


MULTI-CYLINDER VERTICAL—75 to 600 B.H.P.



TYPE KR — 250 to 900 B.H.P.

OTHER DIESELS UP TO 1500 B. H. P.



TYPE EP — 75 to 275 B. H. P.

Oil Field Equipment and Supplies

RAMHEAD PISTONS ARE OF PRACTICAL DESIGN

The Ramhead slush-pump piston, made by the Alamo Iron Works, San Antonio, Tex., is offered by that company as a practical and tested design which under comparative field tests will show unusually long life with a minimum expense and servicing.

The conventional piston body with follower plates and expanding rubber packing is the basis of design. The metal parts are heavy section semisteel castings which tests have shown to be of ample strength to withstand severe operating strains as well as the abuse while being installed to which they are often subjected. The end plates are of sufficient distance from the pump liner, making contact and grinding action impossible, yet the metal parts fully support and protect the rubber packing.

In effect the piston functions as though it were a single piece of metal, since it has uniform strength and there is metal-to-metal contact between the parts. When properly installed this piston will not become loose on the rod while in operation. The rubber packing in no manner affects the connection between the piston and the pump rod.

The heavy metal ring around and through which the rubber packing is molded forms a backing or support giving strength to the packing where it is needed and at the same time allowing for resiliency necessary to obtain long life of the packing. The rubber compound is a tough high quality stock possessing unusual wearing qualities and is vulcanized onto the metal ring with a bond between the two.

The flexible ends of the rubber packing respond instantly to piston action with slippage almost entirely eliminated.

WALWORTH'S NEW CATALOG

The new catalog No. 88 prepared by the Walworth Co., Boston, Mass., is a 754-page book in which the company's full line of valves, fittings and tools is described and illustrated. Among new features incorporated is the center index spread which provides quick reference to any one of the hundreds of items. The catalog departs from the conventional makeup of valve and fittings catalog. Instead of showing cast iron fittings and similar items which constitute the tonnage bulk of a company's production in the first part of the book, it begins with bronze valves with the idea of giving most prominence to the quality products of a more distinctive type. On all valves recommended for oil, water and gas service it gives the ratings, a distinctly convenient reference for valve users. Throughout the book text matter gives the salient sales points of the more important items. At the beginning of the steel section this catalog shows a steel valve and fittings recommendation chart, covering pressures, temperatures and trim materials for various classes of service.

WILSON ARC WELDING WIRE

In addition to the complete line of Wilson "Colortipt" arc welding wire, a grade of which is available for each particular metal and welding purpose, the Wilson Welder & Metals Co., Inc., North Bergen, N. J., now manufactures a general purpose rod, known as Wilson red processed arc welding wire. This wire combines a fast and smooth flowing quality with good penetration. It will produce a weld of at least 50,000 pounds per square inch tensile strength, and is especially recommended for general welding operations where medium ductility is required. It is supplied in 50-pound, wire-tied, burlap-wrapped bundles.

BJ SLIP ELEVATOR OF NEW SIZE TO BE MADE

The Byron Jackson Co., Los Angeles, Calif., announces that a new size of its side-door slip elevators for handling 2-inch, 2½-inch, 3-inch and 3½-inch tubing will be placed on the market soon to handle safely the extreme lengths of tubing rapidly becoming common in oil field practice.

This side-door slip elevator can be snapped on and off the tubing, pipe or casing, without removing cement heads or circulating heads. The spring-floated slips can be set by hand at any point desired, or will set positively when the collar or coupling contacts them.

A large foreign company has placed an order for 24 BJ side-door slip elevators. The order is for eight each of the 13⅜-inch, 10-inch and 7-inch. The 7-inch is a new size that has proven valuable for handling flush joint drill pipe, as well as standard drill pipe and casing.

REPUBLIC'S NEW WELDED PIPE IS NOW AVAILABLE

A new kind of welded pipe has been made available with the placing in operation of Republic Steel Corp.'s new plant in Youngstown, Ohio, devoted to the making of electric weld pipe.

An experimental mill making only small sizes has been in production for almost a year with the result that over 2,000 miles of pipe was placed in service. The advantages of this pipe were so apparent that the demand created made necessary the building of a completely equipped new plant in which to make sizes from 4½ to 16 inches in diameter.

Some of the advantages claimed for Republic electric weld pipe are: Complete efficiency of weld, uniform wall thickness, perfect roundness, uniform strength and resistance to corrosion, freedom from flat spots, scale and oxide free and smooth finish.

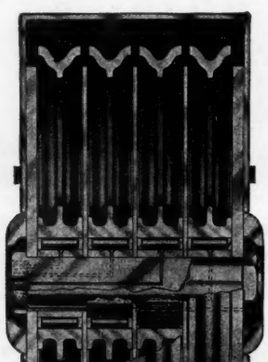
OPERATOR EASILY MAY REGULATE PRODUCTION

Important improvements in the method of providing electric automatic control and electric remote control for the Reeves variable speed transmission have been developed by the Reeves Pulley Co., Columbus, Ind. By means of the Reeves electric automatic control the speed of the transmission and, in turn, of the machine or machines to be controlled, may be infinitely regulated over a predetermined range entirely automatically, while the operator of a machine equipped with the remote control without leaving his position may regulate accurately the speed of one or more machines merely by pressing a button.

On scores of installations this new electric automatic control is said to have increased production, cut the percentages of inferior goods and economized on fuel and raw materials. Accurate synchronization of a series of machines or of different parts of a single machine is the basis of these production economies. Materials under process are delivered directly from one machine to another with minimum handling and supervision by operators.

Identical with the electric automatic control in every detail but one, the electric remote control puts production regulation at the machine operator's fingertips. Adaptable to any type of machine, this control is especially advantageous where the driving unit is at a distance from the operator where control stations may be located at inspection windows.

TRAVELING BLOCK DESIGNED FOR SPEED WITH SAFETY



The Baash-Ross roller bearing traveling blocks tapered construction provides perfect balance for smooth, fast running with safety. The block is compact and rigidly designed to prolong the life of the sheaves, and consequently the lines. It will carry heavier loads at maximum possible speeds. Side friction of sheaves or slippage on the wire lines is eliminated, as the load comes in the center of the sheave grooves.

Each sheave is mounted and rotates on its own individual roller bearing which turns on a hardened and ground inner race. This race is keyed to a one-piece center pin made of high-grade steel. One end of the center pin is solid and has a heavy shoulder. The other end is threaded for the hexagonal retaining nut. As illustrated in the sectional view, the solid end of the pin is drilled for individual lubrication to each roller bearing. Lubrication is facilitated by the use of Alemite connections recessed in the end of the main pin.

The main center pin is thoroughly braced and supported by means of half inch steel spacer plates between each two sheaves, by two 1-inch outer plates and by two solid steel upper and lower end pins. In order to be easily removed, the two end pins are also made with a shoulder at one end and a hexagonal nut at the other.

The upper pin extends through the spacer plates and outer plates which are separated and held rigid by steel spools between the plates. The lower pin supports the forged steel clevis which is mounted between the outer plates and the first spacer plates.

The three one-piece pins and the heavy spacer and outer plates, separated and held parallel by the clevis and spacer spools, insure rigidity and distribute load stresses uniformly over the entire block. The sheaves thus are kept in alignment, which reduces wear on both sheaves and roller bearings.

The outer plates are reinforced further on both sides by heavy cast steel side plates over and beyond the entire length of the block. The ends of the side plates are turned inward and the entire exposed surface is rounded off with recesses for the heads and nuts of the pins. This feature provides a smooth-running outside surface, facilitating fast lowering and raising with no danger of projections.

The roller bearing assembly is designed and manufactured by the Baash-Ross Tool Co., Los Angeles, Calif., to withstand tremendous loads and to last. It consists of 20 chrome vanadium steel rollers mounted in a steel cage which holds the rollers parallel at all times. The rollers float free and cannot bunch up since they are held in place by means of pins and spacers in the cage. The rollers and their inner race are heat treated, hardened and ground to shape.

Steel guards are fitted over the sides of the sheaves. The traveling block complies with all requirements of the Industrial Accident Commission with a wide margin of safety. The entire sheave and bearing assembly is interchangeable with the roller bearing Hi-Deck drilling crownblock.

ARMCO HIGH IN SAFETY RACE

Middletown plants of the American Rolling Mill Co., East works and Central works, were first in their respective divisions of the National Safety Council's annual contest for 1930, according to a wire received from the national offices this week. East works, entered in Group A, Metals section (steel plants employing more than 1,000 men), was first in that division. The men at East works had only five accidents and a frequency of 1.31 for 2,900 men and 3,796,114 man hours during the six months' period. They will receive a bronze placque. Central works, entered in the contest for steel plants employing less than 1,000 men, also finished in first place. The men working in Armco's original plant finished the first six months of 1930 with a perfect record. They did not have any accidents. They will also receive a bronze placque. J. R. Byrum is safety and training advisor for the Middletown, Ohio, division of the American Rolling Mill Co. and R. G. Adair is staff supervisor of safety and training for the company. Accidents at Armco have been reduced 73 per cent in comparison with the first six months of 1929. This reduction in accidents from 137 for the first six months of 1929 to 37 for the same period this year is attributed to the "foreman-manager" and "job-training" training programs carried on by the company.

GEORGE CORNMAN RETIRES

George W. W. Cornman, treasurer and manager of the service department of the Brown Instrument Co., Philadelphia, Pa., has retired from business. Mr. Cornman was associated with the instrument business 35 years, formerly being secretary and treasurer of the Keystone Electrical Instrument Co. When that organization was absorbed by the Brown Instrument Co. he became treasurer and a director of the latter. The Brown company's service department will be in charge of R. C. Kennan as manager and E. T. Nahill as field supervisor.

Oil Field Equipment and Supplies

REPUBLIC COMBINATION BURNER SAVES ON FUEL

The Republic E.&L. combination oil and gas burner, made by the E.&L. Co., Wichita Falls, Tex., and distributed by the Republic Supply Co., Houston, Tex., is designed to meet the need in rotary and cable tool drilling for a universal burner capable of efficient firing with high-pressure or low-pressure gas, fuel oil or a combination of low-pressure gas and fuel oil.

According to the manufacturer the burner has capacity with forced firing for developing and maintaining twice the rated horsepower of the largest oil field boilers. With proper installation and adjustment the burner is said to effect a substantial saving in fuel in addition to greatly increased efficiency in making and maintaining steam.

Where gas is available, but not in sufficient quantity, fuel oil can be added to meet the requirements, thus permitting use of gas which otherwise would be wasted.

BUSINESS NOTES

The Chicago Pump Co. has added H. G. Ragan to its list of representatives. Mr. Ragan has offices in the Brandeis Theater Building, Omaha, Neb.

William Bastable has been appointed distributor for USL welding equipments and accessories for the Manhattan district. He has opened an office at 505 Fifth Avenue, New York.

Haynes Stellite Co., Kokomo, Ind., a unit of Union Carbide & Carbon Corp., has completed a new foundry at the Kokomo works for the manufacture of the Hastelloys, a group of new acid-resisting alloys.

The Taylor Tractor & Equipment Co., Oklahoma City, Okla., has opened a branch in Tulsa, handling Caterpillar tractors and graders besides a full line of oil field and pipe line equipment. W. F. McCormick is in charge. Temporary headquarters have been established on the Sand Springs Road.

COATESVILLE CO. EXPANDS

The Coatesville Boiler Works, Coatesville, Pa., has acquired the Middletown, Pa., plant of the Standard Steel Car Co. (Pullman Corp.). The addition of this new property to the present shops of the Coatesville Boiler Works, is said to make its capacity the largest in America devoted exclusively to steel plate fabrication. The new property comprises approximately 40 acres of land and 500,000 square feet of floor space. The buildings are modern brick and steel structure especially designed and equipped for plate fabrication. During the past few years the Coatesville Boiler Works has increased its regular line of products by the addition of a complete line of firebox heating boilers, oil field boilers, steam regenerators, galvanizing kettles, and asphalt plant equipment.

BIRMINGHAM OFFICE IN TULSA

The Birmingham Tank Co., Birmingham, Ala., is about to open an office in Tulsa, in charge of J. B. Gibson, for several years assistant sales manager in Birmingham. This, the company says, will be a permanent sales office, handling bulk storage tanks, underground tanks, steel and plate work of all kinds, pressure tanks, septic tanks, grease racks, standardized steel warehouse buildings, steel pumphouse buildings and ready-made steel filling stations. The Birmingham Tank Co. is one of the Ingalls industries, the Ingalls Iron Works Co. of Birmingham being the parent company.

PIPE LINE WELDING SIMPLIFIED BY BETTER TREATMENT OF JOINT ENDS

By William Graham
A. O. Smith Corp.

Although the welding of large diameter pipe lines had been carried on in the field for many years no effort had been made to supply a proper preparation of the ends of the joints for welding. Straight end beveled pipe, such as was used for coupled lines, or the ordinary slip joint secured by a bell on one end in which the straight end of the next joint could be inserted, were all that the field afforded. Neither of these constituted a desirable welding condition, though many miles of these types of joint were welded. In one case it was necessary to butt the ends of adjoining lengths together, with a proper spacing between them, to provide room for contraction of the cooling weld metal. This resulted in a scarf or channel with no bottom, presenting a difficult problem to the welder, who had been told that 100 per cent penetration was required, but no obstructions or "icicles" due to metal dropping through to the inside would be tolerated.

Plain ends offered no stabbing facilities, making the lineup and tack for welding a slow, expensive operation, since even with the help of specially constructed lineup collars the various joints had to be turned and tried to compensate for irregularities in size and roundness before they could be tacked. Even with the utmost care in this operation it was oftentimes impossible to secure a proper lineup, thereby presenting still further problems to the welders.

Slip Joint Helped

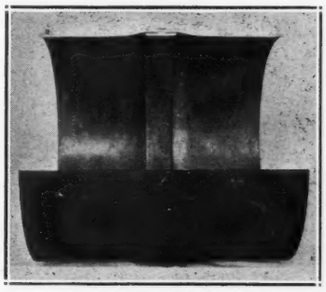
The slip joint eliminated some of the lineup and tack difficulties, and although it provided a chill for the welder to work against, eliminating the chance for "icicles," it had other objectionable features. The bell being of greater circumference than the straight end of the pipe, it expanded more than the straight end did when subjected to the welding heat and consequently as the welder approached the completion of this weld he found the bell rising from the surface of the straight end in a so-called "ruffle." The weld in this type of joint was placed in shear, which of course reduced its efficiency against stress in tension.

A suggestion by A. O. Smith Corp. engineers that a chill or stabbing ring may be used in connection with straight end pipe was rejected because of the fear of turbulence set up in the gas flow and a possible restriction of capacity. Smith engineers then developed the Smith bell and spigot with dam as a means of providing field help. Since it required a great deal of time to design and build the special equipment required to produce the dam on the spigot end of the joint, a ring or collar of a special cross section was made up and circularly welded to one end of each joint. The other end was expanded to the proper diameter to slip over the stabbing ring end and a new field joint for welded pipe lines came into being. Both ends of each joint of pipe were sized in a press operation, resulting in fast, accurate lineup in the field with no necessity of turning and trying to make ends match. It left a uniform weld preparation constituting a groove or channel of constant width, provided a chill for the welder to work against, eliminated all trouble due to creeping or ruffling and placed the weld in tension.

Had Two Disadvantages

After the pipe mill was equipped to produce regularly this type of joint, the welding dam on the spigot end was formed by an upsetting operation while the end of the pipe was hot. While this type of end preparation provided easy and economical lineup and a proper welding setup, it had two disadvantages. It proved to be an expensive operation in manufacture and resulted in a loss of approximately 3 inches of every joint, due to the upsetting of the dam and the stabbing together in the field.

In the search for a type of joint which would embody all the advantages of the Smith bell and spigot with dam but without either of its disadvantages, Smith engineers developed the double bell end with stabbing or chill ring which has successfully met all requirements. Each end of the pipe is belled to a diameter large enough to admit a ring which serves the double purpose of supplying



Double bell and ring joint.

an aid to lineup operations and serving as a chill for welding. This ring is made up of a special rolled section of the same grade of steel in the pipe, having a raised bead in the center with beveled approach on each side, insuring a tight fit between it and the pipe. These beveled approaches take up any slight irregularity in the ends occasioned by rough handling and also make it possible to reduce the diameter of the ring at the edges, facilitating the stabbing operation.

This method of end preparation for stabbing and welding produces a joint having all the advantages sought for in the field without any loss of material. While the cost of belling the ends and of the chill ring must be added to pipe costs it becomes insignificant in comparison with the savings effected through greater progress in the field. It is probable that the next step will eliminate the belled ends since the field is beginning to believe that the restriction offered by a chill ring which projects into the inside of the pipe is negligible.

SAFETY DRILL COLLAR PREVENTS BACKING OFF

The Brewster safety drill collar, manufactured by the Brewster Co., Inc., Shreveport, La., is designed to prevent a drill bit of any kind from backing off while going into the hole. The locking device is automatic, allowing the bit to make up but not allowing it to unscrew.

To lock the bit the loose ring is allowed to drop down below the point of the projecting blade. To unlock it the slideable ring is moved up, which disengages the projection on different types of bits.

The Chicago Pump Co., Chicago, has produced two new pieces of literature on centrifugal pumps. One is an eight-page pamphlet on Chicago pumps. The other shows the Condo-Vac vacuum pump, pointing out important features of design.

NOVEL INSTRUMENT FOR SHOWING TEMPERATURES

A novel instrument for measuring and recording temperature has been developed by the Uehling Instrument Co., Paterson, N. J. This instrument, the "Self-Contact" potentiometer pyrometer, was designed primarily for measuring high temperatures in the iron, steel and ceramic industries. It lends itself equally well, however, to the measuring and recording of any temperatures where a high degree of accuracy is desired. Either a thermocouple or an electric resistance bulb may be used as the temperature element.

The "Self-Contact" potentiometer pyrometer employs a patented method which assures contact between the needle of a galvanometer and stationary contact pieces, without auxiliary mechanical devices. Although the recorder retains the advantages of the potentiometer, the contact method permits placing the galvanometer that may be placed in any desired location, apart from the recorder. A single galvanometer will actuate as many as four recorders, each recorder in a different location, each measuring a different temperature, and if desired, each having a different calibration.

The entire recording mechanism is fastened to a frame which is hinged to the case. Everything may be opened up to permit accessibility to all parts of the apparatus. A small motor operates only as and when necessary to adjust the pen to the proper temperature reading on a clock-driven chart. It is also in geared connection with two pulleys over which a translucent endless belt, about 2 feet long, is placed. The belt is calibrated in temperature units and will move in direct proportion to the pen mechanism but at a greater speed. This permits an open and legible scale which moves in back of a pointer fastened to the door. The legibility of the figures, the exceptional length of the scale, and the fact that it is illuminated from the rear, make it easily read under all conditions at a distance of 75 feet or more.

TRADE LITERATURE RECEIVED

The Miller Sand Pump Co., Sapulpa, Okla., is sending out a bulletin devoted to the Miller sand pump and parts, Chancellor separator and Jiffy clamps.

Neilan Co., Ltd., Los Angeles, Calif., manufacturer of pressure control equipment, has opened a branch office at 16 Avila Road, San Francisco, Calif., with W. S. Waldrip in charge.

The story of Heppenstall electric induction steel is told in a 12-page booklet published by the Heppenstall Co., Pittsburgh, Pa.

The Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa., is mailing a leaflet on electrical pumping of oil. It includes data for the proper selection of pumping equipment whether for individual well or group pumping. The advantages of electrical drives are enumerated.

The Reeves Pulley Co., Columbus, Ind., has issued a 12-page illustrated bulletin in colors on the Reeves electric automatic control.

FOR BRASS PIPE

Because of the increasing use of brass pipe in plumbing and heating installations, the Borden Co. of Warren, Ohio, announces that it will carry in stock dies for all sizes of "Beaver" tools, specially ground for threading brass pipe.

These dies will be copper-plated and stamped "For Brass Pipe."

Boom, Crawlers, Engine And Everything

The Barber-Greene Pipe Line Special has a digging boom to dig with. It has crawlers to ride on. It has an engine to make the wheels go round—and everything.

But it is entirely different from all other ditchers.

●

The boom goes straight down at the rear of the chassis.

That means a new compactness and a new ease of handling.

●

Digging teeth, closely spaced and travelling at high speed, literally "mill" their way through the soil. Coral rock, caliche, hard-pan, blue clay and even macadam pavement have fallen before them.

And speeds on the open stretches are correspondingly much higher.

●

The patented overload release lets go when you hit a hard spot—but re-engages automatically if you want to go through.

So throw the B-G Special into high and go—danger to both the machine and possible underground pipes is minimized without affecting diggability.

●

And so we could go on and on and on—about this ditcher, so different from all others that the wise boys said it couldn't be built.

But the real story is told in facts and figures in our recent book titled: *Ditching Snapshots and Records*. If you've cross country digging ahead of you — get a copy today.

BARBER STANDARDIZED MATERIAL HANDLING MACHINES **GREENE**

600 WEST PARK AVENUE, AURORA, ILLINOIS

PIPE LINE SPECIAL

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Continued from Page 54)

National O. & G. Co.'s No. 1 Kirkland, 585 ft. E, 495 ft. N, NW cor., Sec. 35-9-1n.....Gas show bailed dry; 3,079 ft; arranging to deepen.

CLAIBORNE PARISH

Baird Bros. et al's No. 1 Whitaker, 600 ft. N, 400 ft. W, SE cor. NE, Sec. 30-20-7.....Derrick.

El Dorado Chief Oil Co.'s No. 1 Dance, C SW NE, Sec. 27-20-7.....S.D. 2,240 ft.

Triangle Drlg. Co.'s No. 1 Hodges et al, 660 ft. S, 660 ft. E, NW cor. NW SW, Sec. 6-19-5.....Drlg. lime and pyrites 3,674 ft.

CONCORDIA PARISH

A. C. Glassell's No. 1 Pittsfield Plantation, N 9°, E 1,320 ft., SW cor., Sec. 41-8-10.....Blew out between 1,392-1,450 ft; estimated 1,000,000 ft. gas; bridged; recmtd. 8¼-in. 1,370 ft; S.D; T.D. 1,453 ft.

Joe Marr et al's No. 1 Maxwell, C, Sec. 35-3n-8e.....8-in. stuck at 1,300 ft; T.D. 2,320 ft.

DE SOTO PARISH

Ark.-La. P. L. Co.'s No. 2 Johnson, 2,144 ft. N, 1,343 ft. W, C, Sec. 7-11-13.....D.S. test 2,904 ft; dry; coring 3,017 ft.

Joe Burnham et al's No. 1 Mary Hood, 320 ft. W. 201 ft. S, NE cor. SE SE NE, Sec. 3-11-14.....4-ft. sand showing oil; arranging to cmt. 6⅝-in. 2,330 ft; T. D. 2,356 ft.

J. W. Clark's No. 1 Tidwell, NW cor. NW, Sec. 22-13-14.....Derrick.

J. W. Clark's (was Sam Gold et al's) No. 1 Platt, 200 ft. S, 200 ft. W, NE cor. SW, Sec. 23-13-14.....Coring shale 2,760 ft.

Gulf Ref. Co.'s No. 1 Dry, 2,390 ft. N, 200 ft. E, SW cor., Sec. 14-11-15.....Drlg. 2,970 ft.

S. A. Guy's No. 1 Dowling Bros., 469 ft. E, 382 ft. S, NW cor. NE, Sec. 31-14-14.....Derrick.

Bud Harrell's No. 1 Horton, 450 ft. E, 150 ft. N, SW cor., Sec. 4-11-11.....S.D. 1,060 ft.

Frank Melat, Inc.'s No. 1 Schryver, 175 ft. E, 175 ft. N, SW cor. NW SW, Sec. 35-14-13.....W.O.S.R. 2,819 ft.

Michlouzanna O. & G. Co.'s No. 1 Payne, 410 ft. S, 398 ft. E, NW cor., Sec. 12-11-16.....S.D. 2,600 ft.

Odell & Lawton's No. 1 Tidwell-Tull, 300 ft. N, 600 ft. E, SW cor. NW, Sec. 11-13-14.....D.S. test 2,954 ft; dry; arranging to deepen.

Pelham & Bunby's No. 1 Rhodes, C S½ SE, Sec. 32-13-14.....D.S. test 2,817 ft-92 ft; showed oil; 15 ft. broken lime 2,877-92 ft; cmtng. 6⅝-in. 2,800 ft.

Philp et al's No. 1 Talbot, 220 ft. S, 730 ft. W, NE cor. NW NE, Sec. 9-13-13.....Derrick.

H. O. Roy's No. 1 Nelson, 660 ft. S, 660 ft. E, NW cor., Sec. 36-15-13.....Drlg. 2,500 ft.

JACKSON PARISH

El Dorado Chief O. & G. Co.'s No. 1 Sou. Advance Paper Bag Co., 225 ft. N, 275 ft. E, SW cor. SW NE, Sec. 35-15-4.....S.D. 1,400 ft.

LINCOLN PARISH

Ark. Fuel Oil Co.'s No. 1 Lewis & Co., 300 ft. N, 300 ft. W, SE cor. NW SE, Sec. 26-20-4.....Cmtd. 6⅝-in. 4,237 ft; 1,000 ft. S.W. in hole; W.O. 4,292 ft.

MOREHOUSE PARISH

Pelican Nat. Gas Co.'s No. 1 Tensas Delta Land Co., 1,320 ft. N, 660 ft. E, NW cor., Sec. 17-18-6.....Rig up.

NATCHITOCHES PARISH

W. M. Coats' No. 1 Collins, 730 ft. N, 50 ft. E, C, Sec. 28-9-10.....Cmtd. 8⅝-in. 2,224 ft; T.D. 2,270 ft.

J. W. Cooper et al's No. 1 Cooper, NW SW, Sec. 35-11-10.....Began drlg. Aug. 18; cmtd. 10-in. 81 ft.

S. D. McDaniel's No. 2 Clark & Morse, 800 ft. E, 350 ft. N, C, Sec. 23-5-6.....Tested 1,000,000 ft. gas and S.W. 3 ft; S.D. for orders; T.D. 2,536 ft.

Robeline O. & G. Co.'s No. 1 Winn, 558 ft. N, 348 ft. E, SW cor. SE, Sec. 7-8-9.....S.D. 1,600 ft.

RAPIDES PARISH

Ayers Bros.' No. 1 Wickliff, 2,790 ft. N, 150 ft. E, SW cor., Sec. 9-5n-2e.....Drlg. 3,500 ft.

RED RIVER PARISH

E. C. Lucas' No. 1 La. Pecan Co., Sec. 26-13-11.....Bailed down 1,000 ft; blew in estimated 2,000,000 ft. gas and show oil; 17-ft. sand 2,476 ft; testing.

Lucky Strike Oil Co.'s No. 1 Chaffraix, 200 ft. S. 200 ft. E. C, Sec. 33-12-10.....Began drlg. Aug. 14; cmtd. 10-in. 90 ft; drlg. 450 ft.

Geo. L. Pace et al's No. 1 Clarkson, 200 ft. S, 200 ft. E, NW cor. NE, Sec. 30-12-9.....Drlg. 2,320 ft.

RICHLAND PARISH

Austin & McDonald's No. 1 Hunt, 594 ft. N, 660 ft. E, SW cor., Sec. 13-17-5.....Cmtd. 8-in. 921 ft.

W. C. Feazel's No. 1 Landrum, 620 ft. N, 4,573 ft. E, SW cor., Sec. 6-16-7.....Derrick.

Island Gas Co.'s No. 1 Noe, 1,902 ft. N, 660 ft. W, SE cor., Sec. 3-16-5.....Cmtd. 12-in. 188 ft; 8-in. 857 ft

Palmer Corp.'s No. 11 Rhymes England Planting Co., 2,033 ft. W, 660 ft. S. NE cor. NE, Sec. 12-16-5.....Location.

SABINE PARISH

Ark.-La. P. L. Co.'s No. 1 Whitney, 660 ft. S, 660 ft. E, C, Sec. 28-10-14.....Coring 3,144 ft.

Boone, trustee's No. 1 J. B. Hill, NE, Sec. 4-6-11.....(No check); derrick.

LeGrand Oil Co., Inc.'s No. 1 J. W. Hale, 200 ft. N, 200 ft. E, SW cor. NE NW, Sec. 1-7-13.....Location.

Lohman & Walker's No. 1 Hubley, 330 ft. N, 330 ft. W, SE cor. SE NE, Sec. 21-7-11.....Small gas blowout in sand 1,311-13 ft; arranging to cmt. 8-in. 1,313 ft.

Lohman et al's No. 1 Wyatt Lbr. Co., 150 ft. S, 330 ft. E, NW cor. NE SW, Sec. 18-4-11.....Rig up.

Longoria et al's No. 1 Belton, 330 ft. S, 330 ft. E, C, NE, Sec. 31-9-13.....Rig up.

Magnolia Pet. Co.'s No. 1 Glauque, 484 ft. N, 390 ft. E, SW cor. NW SW, Sec. 26-7-14.....Drlg. hard shale 2,200 ft.

McDaniels & Lieber's No. 2 Batson, 480 ft. S, 220 ft. E, NW cor. SW SE, Sec. 16-8-12.....12½-in. 1,197 ft; drlg. 1,237 ft.

Paramount O. & G. Co.'s No. 1 Woolems, 330 ft. N, 330 ft. W, SE cor. NE NW, Sec. 11-6-12.....Began drlg. Aug. 12; cmtd. 10-in. 102 ft; drlg. 615 ft.

Pelican Nat. Gas Co.'s No. 3 Sabine Lbr. Co., 200 ft. S, 200 ft. W, NE cor. SE NW, Sec. 6-7-11.....S.D. 2,225 ft.

Pelican Nat. Gas Co.'s No. 4 La. Long Leaf Lbr. Co., 300 ft. S, 300 ft. E, NW cor. NW SW, Sec. 4-7-11.....Bailed dry 2,337 ft; testing 2,408 ft.

D. H. Riddick's No. 1 Scretchfield, 400 ft. E, 400 ft. N, SW cor. NW SE, Sec. 18-9-12.....Rig up.

H. T. Stacey et al's No. 1 Polly, NE cor. NE NE, Sec. 18-8-12.....S.D. 3,280 ft.

TENSAS PARISH

Stovall Drlg. Co.'s No. 1 Miller, NE SW, Sec. 18-10-10.....Rig up.

A. R. Willis et al's No. 1 Currey, 1,320 ft. S, 1,320 ft. E. NW cor., Sec. 29-11-12.....Drlg. 675 ft.

WEBSTER PARISH

J. P. Evans et al's No. 1 Crichton Co., NE cor. NW NE, Sec. 31-18-8.....S.D. 2,300 ft.

ARKANSAS

CLEBURNE COUNTY

Cosden Oil Co. of Ark.'s No. 1 Donophan, 100 ft. S, 660 ft. E, NW cor. SW SE, Sec. 19-9-10.....Coring sandy lime 1,648 ft.

Donnelly-Craver et al's No. 1 Donophan Lbr. Co., SE cor. NW, Sec. 32-11-9.....Arranging to set 8¼-in. 3,375 ft.

COLUMBIA COUNTY

S. Y. Dorfman et al's No. 1 Merritt, 923 ft. S, 160 ft. W, NE cor. SE NW, Sec. 25-19-22.....Drlg. 1,600 ft.

FRANKLIN COUNTY

Red Bank Oil Co.'s No. 1 Edtin, SW cor., Sec. 33-10-26.....Cmtd. 12½-in. 165 ft; drlg. 660 ft.

GARLAND COUNTY

Givens et al's No. 1 Garrett, 660 ft. S, 660 ft. W, C, Sec. 1-3-19.....Drlg. shale 2,835 ft.

HOT SPRINGS COUNTY

Anisman et al's No. 1 Hinson est., NE NE, Sec. 19-4-16.....Drlg. lime 3,685 ft.

J. R. Lockhart's No. 1 Cunningham, 285 ft. S, 285 ft. W, NE cor., Sec. 11-5-16 (reported in Grant County in error).....Junked at 330 ft; skidded 20 ft north; cmtd. 15⅝-in. 20 ft; 12½-in. 294 ft; arranging to cmt. 10-in. 405 ft.

LAFAYETTE COUNTY

Crawford Drlg. Co.'s No. 1 Vaughn, 200 ft. S, 200 ft. W, NE cor. SE NE, Sec. 25-19-25.....Derrick.

LINCOLN COUNTY

B. F. Thompson, trustee's No. 1 McGhee, 330 ft. S, 150 ft. W, C, Sec. 3-8-7.....Rig up.

LITTLE RIVER COUNTY

A. L. Buck's No. 1 Greason, NW NW, Sec. 25-12-32.....Rigging up.

LOGAN COUNTY

J. H. Flowers' No. 1 J. H. White, Sec. 13-6-26.....S.D. 2,502 ft.

MADISON COUNTY

J. W. Baxter's No. 1 Hallem, C NE SW, Sec. 17-16-26.....U.R. 5 3/16-in. 3,570 ft; T.D. 3,610 ft.

MILLER COUNTY

Big Dill Oil Co.'s No. 1 Dean, 200 ft. N, 200 ft. E, SW cor. NW SW, Sec. 30-15-25.....S.D. 540 ft.

E. & F. Oil Co.'s No. 1 E. L. Beck, 200 ft. S, 200 ft. E, NW cor. SW, Sec. 36-15-26.....Derrick.

Lentz et al's No. 1 Dale, 300 ft. S, 300 ft. E, NW cor., Sec. 25-15-26.....Derrick.

Lenz et al's No. 1 G. W. Johnson, 400 ft. S, 400 ft. W, NE cor. SW, Sec. 24-15-26.....O.W.D.D; arranging to deepen; T.D. 2,842 ft.

OUACHITA COUNTY

Anderson & Wimmer's No. 1 Buck, Sec. 7-15-7.....T.D. 2,849 ft; estimated 65 bbls. arranging to set tubing.

Belmont et al's No. 1 Buck, SE cor. SE SW, Sec. 16-15-17.....Sidetracking D.S; T.D. 2,735 ft.

A. B. Turner, trustee's No. 1 Dave Brown, 220 ft. N, 220 ft. E, SW cor., Sec. 23-15-18.....Drlg. 130 ft.

PIKE COUNTY

E. R. Henderson's No. 1 Tilyou, 660 ft. W, 500 ft. S, NE cor. NE SE, Sec. 26-8-14.....Began drlg. Aug. 19; cmtd. 10-in. 103 ft.

POPE COUNTY

Cosden Oil Co.'s No. 1 Mo. Pac. R.R., 660 ft. N, 660 ft. E, SW cor. NW SE, Sec. 13-9-19.....Location.

SCOTT COUNTY

Heavener O. & G. Co.'s No. 1 Riser, Sec. 36-4-26.....Drlg. hard sand 4,864 ft.

SEBASTIAN COUNTY

W. M. Greeson's No. 1 Spears, Sec. 9-7-29.....Straightening hole; T.D. 1,530 ft.

Mansfield Gas Co.'s No. 14 fee, Lot 10, Sec. 1-4-31.....Tested S.W. 3,515 ft; W.O.

Ozark Nat. Gas Co.'s No. 10 Weaver, 660 ft. N, 660 ft. W, SE cor. SE NE, Sec. 27-8-30.....S.D. for wtr. 380 ft.

Ozark Nat. Gas Co.'s No. 1 Bates, C SE NW, Sec. 28-8-30.....Straightening hole; T.D. 2,640 ft.

UNION COUNTY

S. B. Hickman's No. 1 Hogg, 330 ft. S, 150 ft. E, NW cor. SE SE, Sec. 35-16-17.....Location.

Marine Oil Co.'s No. 2-B Thompson, Sec. 10-18-13.....Dry 1,987-2,079 ft; fish. 2,187 ft.

Marine Oil Co.'s No. 1-F Winn, Sec. 10-18-13.....Location.

Modisette Drlg. Co.'s No. 4 Union Sawmill, 330 ft. W, 300 ft. N, SE cor., Sec. 14-18-14.....Rig up.

VAN BUREN COUNTY

Glenn Kohle et al, trustee's No. 1 Scalan, 200 ft. S, 200 ft. W, NE cor. SE NW, Sec. 5-19-13.....Location.

WASHINGTON COUNTY

Delbert & Graves' No. 1 Cunningham, Sec. 14-15-32.....S.D. 50 ft.

C. H. Willoughby's No. 1 Jones, Sec. 34-16-30.....S.D; W.O. 602 ft.

Lincoln Leaseholding Synd.'s No. 1 Lincoln, Sec. 30-15-32.....S.D; W.O. 1,650 ft.

H. H. Taylor et al's No. 1 Runny, C NE SW, Sec. 1-13-19.....U.R. 8-in. to T.D. 1,500 ft.

YELL COUNTY

Tegmeier & Luckett's No. 1 Falcon, Sec. 36-7-21.....S.D. for wtr. 700 ft.

EAST TEXAS

BOWIE COUNTY

Joe Burnham et al's No. 1 G. W. Burnett, 150 ft. W, 400 ft. S, NE cor. G. W. Burnett 76 ac., in W. H. Janes Sur.....Sidetracking 5 3/16-in. 4,120 ft; T. D. 4,160 ft.

Lee Timberlake's No. 1 Tidwell, 2,800 ft. N, 300 ft. W, SE cor., Jos. Eskell Sur.....Derrick.

CAMP COUNTY

McDonald Bros.' No. 1 Tillery, 150 ft. E, 450 ft. S, NW cor. 127-ac. tract, in J. H. Murphy Sur.....S.D. repairs; 2,330 ft.

Rogers et al's No. 1 Enfelt, R. M. Montgomery Sur.....Location.

CASS COUNTY

Phillips Pet. Co.'s No. 1 J. R. Olds, 300 ft. N, 170 ft. E, SW cor., J. A. Stephenson Sur.....T.A. 3,045 ft.

MARION COUNTY

W. D. Chew's No. 1 fee, 2,350 ft. W, 1,275 ft. N, SE cor., W. J. Hamilton Sur.....Rig up.

P. E. Hussey's No. 1 A. A. Trammell, Chas. Lockhart Sur.....D.S. test 2,451 ft; dry

RED RIVER COUNTY

D. M. Buffington's No. 1 Hossler, E. Hughhart Sur.....Drlg. 1,320 ft.

Johnson Pet. Co.'s No. 2 Randolph, Edw. Dean Sur.....S.D. 2,865 ft.

SABINE PARISH

Benedum & Trees Oil Co.'s No. 1 Nona Mills Lbr. Co., Jas. Mason Sur.....Swedging; 2 joints collapsed 8-in; arranging to cmt. 6⅝-in. and packer 2,132 ft.

SHELBY COUNTY

Chapperall Oil Co.'s No. 2 Holt, Matthew Moore Sur.....Derrick.

MISSISSIPPI

ADAMS COUNTY

A. C. Glassell et al's No. 1 Artonish, 75 ft. S, 75 ft. W, NE cor., Sec. 29-8n-2w.....Coring hard lime 5,350 ft.

ALCORN COUNTY

Alcorn Pet. Co.'s No. 1 Matthews, SE cor., Sec. 14-2s-7e.....Coring 1,000 ft.

CHICKASAW COUNTY

Hightower & Golson's No. 1 Flemming, NE cor., Sec. 20-13-3.....Fishing 6-in. csg. 1,414 ft.

HINDS COUNTY

Big Block Oil Co.'s No. 1 Southern Christian Institute, C N½ NE, Sec. 30-6-4.....Fishing 8¼-in. csg. 1,414 ft.

Oscar Brown's No. 1 Riverside (formerly Hennessee et al's), SE cor. SE SW, Sec. 23-16-5.....S.D. 1,910 ft.

Dome Oil Co.'s No. 1 Elton, NE cor. SE SW, Sec. 5-4-1e.....Set 12½-in. 30 ft; S.D. 1,050 ft.

Feazel O. & G. Co.'s No. 1 Millstein, NW cor. NW NW, Sec. 2-5-1e.....Plugging back to test gas shows at 1,334 ft. and 818 ft; T.D. 2,807 ft.

Gulf Ref. Co.'s No. 1 City of Jackson, 2,423 ft. N, 731 ft. W, SE cor., Sec. 10-5-1e.....Began drlg. Aug. 11; drlg. 1,762 ft.

Gulf Ref. Co.'s No. 1 Crane, 660 ft. S. 660 ft. W, NE cor., Sec. 26-6-1e.....Rig up.

Began drlg. Aug. 19.

(Continued on Page 121)

Texas Gross Production for Second Quarter, 1930

The gross crude oil production of Texas of the companies making reports for the second quarter of 1930 is given below. The record is made up from the reports filed with the state comptroller:

A

Name and address—	Barrels	Value
Ama-Gray Oil Co., Amarillo	3,117.98	$4,226.38
Alamo Oil Co., Brownwood	425.00	539.75
Ada Belle Oil Co., Batson	21,319.77	24,452.58
Allday Oil Corp., Wichita Falls	437.86	369.61
Adamson, Peter, Jr., Tulsa, Okla.	429.00	491.91
Argus Oil Co., Inc., Brownwood	332.09	310.91
Acorn Oil Co., Beaumont	8,394.59	9,577.12
Ascot Co., Wichita Falls (3-31-30)	7,301.06	10,089.26
Anderson, C. N., trustee, Des Moines, Iowa	717.02	1,053.54
Arnold, J. L., et al, Eastland	724.69	834.75
Arab Gasoline Corp., Eastland	1,432.69	1,900.08
Arkansas Fuel Oil Co., Shreveport, La.	125,277.00	172,398.11
Arrow Head Oil Co., Dallas	1,432.86	1,911.43
Atlas Oil Corp., Humble	1,801.00	2,071.00
Atlas Production Co., Burkburnett	1,306.47	1,556.33
Adams & Lyles, Lockhart	3,401.25	3,911.43
Adams & Lyles, Lockhart	2,153.92	2,853.94
Adams & McGahey, Amarillo	4,737.21	6,207.34
Allbritain, F. J., Markley	847.99	1,153.27
Ames, E. W., et al, San Antonio	130.04	177.94
Anchor Oil Producing Co., Dallas	679.25	887.31
Arcadia Refining Co., Brownwood	21,608.91	29,138.00
Abercrombie, J. S., Co., Houston	65,556.34	73,746.31
Alaska Petroleum Co., Amarillo	1,324.69	1,488.00
Alamosa Oil Co., Amarillo	6,143.08	4,929.55
Alworth-Stevens-Hild Co., New York, N. Y.	1,474.74	1,253.53
Abraham, Earl, Bridgetown	1,102.15	1,537.50
Amicable Life Insurance Co., Waco	415.00	415.00
Ashe Syndicate, Fort Worth	1,004.80	1,372.45
A. & P. Production Co., Houston	43,472.48	46,961.59
Anderson, C. N., trustee, Des Moines, Iowa	1,168.46	1,607.09
Amarillo Oil Co., Amarillo	1,712.63	1,591.38
Arco Oil Co., Wichita Falls	40,927.69	38,394.84
Anderson, J. T., Cisco	2,459.00	3,346.17
Abbott, R. W., Beaumont	890.25	1,023.78
Art & Taxmon, Wichita Falls	2,456.59	3,477.68
Adams, Dr. Walter B., Wichita Falls	387.06	530.45
American Refining Properties (WMP), Wichita Falls	9,855.74	12,449.08
Atlantic Keystone Petroleum Co., Bolivian Petroleum Co., Fort Worth	469.14	398.77
American Refining Properties (MJB), Wichita Falls	2,975.81	4,058.60
American Refining Properties (RMW), Wichita Falls	1,847.12	2,551.18
American Refining Properties (NBC), Wichita Falls	1,232.63	1,700.33
Atlantic Oil Producing Co., Dallas	873,446.08	930,693.56
Andrews Petroleum Corp., New York, N. Y.	4,138.86	3,635.75
Atkinson & Sandefer Oil Corp., Breckenridge	8,488.13	10,851.81
Adams, McGahey & Osborne, Amarillo	4,737.21	5,923.63
Adams & Prince, Amarillo	14,437.22	17,902.23
Amerada Petroleum Corp., Tulsa, Okla.	352,063.30	322,683.99
American Refining Properties, Wichita Falls	55,721.02	59,935.31
American Maracaibo Co., New York, N. Y.	105,688.09	90,380.00
Ascot Co., Wichita Falls	4,564.66	6,303.26
Aarco Oil & Gas Co., Baltimore, Md.	8,269.46	11,633.77
Artex Oil Co., Wichita Falls	1,063.18	1,439.16
Ailes, J. W., Wichita Falls	922.68	1,118.81
Andrews, W. R., et al, Breckenridge	1,104.34	1,428.97
Anderson-Prichard Oil Corp., Oklahoma City, Okla.	163.41	207.11

B

Brown Farm Oil Co., Wichita Falls	1,964.84	2,860.93
Brownslee-Pope Oil Co., Austin	2,045.53	2,662.76
Bayless, A. L., Fort Worth	1,071.14	1,559.61
Barkley & Meadows, Fort Worth	2,253.29	1,021.66
Bradstreet, The L. G., Co., Fort Worth	56,848.48	76,780.29
Blue Bonnett Petroleum Corp., San Antonio	707.02	772.90
Baker, James Blair, Jr., and C. F. Camp, trustee, Wichita Falls	3,183.14	4,081.34
Baker, James Blair, Jr., and C. F. Camp, trustee, Wichita Falls	24,705.06	31,558.51
Bourbon Royalty Co., Dallas	1,269.03	1,749.75
Bourbon Royalty Co., Dallas	4,460.94	5,166.80
Borealis Oil Co., Oklahoma City, Okla.	3,983.36	5,355.35
Burns, L. T., Wichita Falls	119,721.25	169,562.78
Bona, Joseph E., Coleman	8,277.10	8,930.11
Blue onnett Oil Co., Wichita Falls	758.70	1,040.50
Brown, Dr. E. W., estate, Orange	601.77	692.03
Brown, Mrs. Carrie L., et al, Orange	16,687.14	18,926.13
Barnsley, Foster, Laredo	14,631.59	13,427.14
Boysen, B. S., and Jack Smith, Brownwood	808.47	922.14
Big Gray Oil & Gas Co., Amarillo	29,858.63	40,653.41
Big Lake Oil Co., Pittsburgh, Pa.	987,150.62	1,203,664.30
Bowers Oil Co., Vernon	1,184.43	1,554.14
Brady Brothers, Minerva	1,013.03	1,317.67
Brannon & Murray, Cisco	2,919.25	4,310.17
Briscoe, A. D., Brownwood	255.93	307.35
Burke-Greis Oil Co., Tulsa, Okla.	1,456.75	2,062.95
Bailey, Carl, Wichita Falls	8,425.09	11,673.22
Badger Oil Co., Amarillo	12,424.75	15,990.12
Barnsley, Foster, Laredo	12,813.68	10,892.72
Bevering, A. H., et al, Henrietta	957.08	1,242.99
Buell & Hagan, San Angelo	659.07	500.89
Bartlett Production Co., Rockdale	779.33	1,007.98
Bowman Oil Co., Rockdale	553.53	717.02
Biggs Oil & Gas Co., McKinney	970.00	1,362.12
Byrd, W. E., Daisetta	1,176.64	1,183.98
Braden Co., Tulsa, Okla.	3,956.13	5,102.04
Bohner, C. J., et al, Burkburnett	5,737.50	8,030.47
Bohner, Crenshaw & Whitehill, Burkburnett	7,922.15	10,347.72
Bohner, C. J., Oil Corp., Burkburnett	17,987.17	23,627.70
Brown, A. J., Fort Worth	1,322.86	1,554.88
Bynum & Palmer, Rockdale	123.88	166.62
Bonner, The, Co., Wichita Falls	18,858.95	25,840.74
Barnsdall Oil Co., Tulsa, Okla.	84,408.68	102 892.95
Brown, H. L., Fort Worth	8,718.96	10,279.61
Bridwell & Heydrick, trustee, Wichita Falls	1,709.49	2,449.91
Bartlett, William, & Co. and Texota Pet. Co., Electra	409.33	587.23
Britton & Gordon, Strawn	570.55	815.80
Bynum, W. W., estate, Rockdale	878.72	1,143.81
Bryson Oil & Gas Co., San Angelo	16,281.00	23,668.78
Burton McKee Oil Corp., Strawn	608.10	805.73
Butler & Perkins, Olney	151.40	179.00
Black Creek Oil Co., Olney	395.44	533.19
Beggs, George, Strip, Fort Worth	1,969.17	3,220.15
Bernardini, P., et al, Brownwood	35.32	30.73
Barbara Oil Co., Chicago, Ill.	3,131.43	4,698.88
Baldwin, F. C., et al, Fort Worth	1,479.27	2,138.54
Beams, Drew, Okmulgee, Okla.	1,573.65	2,088.04
British American Oil Producing Co., Tulsa, Okla.	5,705.27	7,993.80
British American Oil & Gas Co., Tulsa, Okla.	796.93	1,027.15
Breeding & Hutson, Rising Star	445.59	676.03
Barnes, J. B., Electra	12,283.53	15,365.12
Baker & Pardue, Breckenridge	13,221.65	17,879.66
Bexata Oil Co., San Antonio	1,226.58	1,362.97
Boller, C. W., Wichita Falls	33,819.49	48,048.47
Boller, C. W., Wichita Falls	5,229.41	6,408.90
Black Diamond Oil Co., Amarillo	344.44	333.98
Bridwell Oil Co., Wichita Falls	164,125.49	198,450.96
Baker, J. F., and H. E., Breckenridge	2,387.00	3,222.51
Baker, Mollie B., and Fred R., Breckenridge	835.00	1,160.65
Baker, J. A., and Mollie B., Breckenridge	6,595.00	8,781.52
Buchanan, A. A., San Antonio	19,262.28	26,161.68
Bohner, C. F., Kansas City, Kans.	145.10	177.02
Baird Oil Co., Putnam (3-31-30)	148.73	207.83
Baird Oil Co., Putnam	149.72	176.10
Buttram Petroleum Corp., Oklahoma City, Okla.	38,469.15	57,642.17
Buttram, Frank, Oklahoma City, Okla.	774.44	1,044.92
Bridwell & Mayfield, Wichita Falls	5,308.42	8,645.76
Bell Oil & Gas Co., Tulsa, Okla.	9,612.45	7,314.94
Biles, George J., Tulsa, Okla.	4,891.36	5,736.88
Bullington-Clark et al, Wichita Falls	5,564.71	4,981.17
Black, W. A., Midland	922.02	1,032.65
Black Cat Oil Co., Electra	862.21	1,162.60
Boardman & Ulrich, Corsicana	1,281.00	1,665.30
Brooks & Hanlon, Inc., Tulsa, Okla.	718.22	862.08
Brown & Guinn, Wichita Falls	289.79	406.94
Bashara, M. J., & Sons, Wichita Falls	4,566.12	4,348.86
Bashara, J. F., Houston	8,871.30	10,112.39
Bolin, D. H., trustee, Graham	16,961.93	21,711.27
Brazelton Bros. & Williams, Jean	4,592.34	6,030.90
Burkburnett Production Oil Trust, Baltimore, Md.	941.22	1,269.57
Benedum-Trees Oil Co., Pittsburgh, Pa.	26,077.53	21,349.33
Big Gray Oil Co., Pampa	25,960.33	36,172.92
Bailey, Mrs. Fannie E., Wichita Falls	1,302.26	1,799.88
Barnum Oil Co., Amarillo (1-1927 to 4-30-30, inc.)		1,023.81
Big State Oil Corp., Houston	2,615.91	3,394.44
Brownwood Pro. & Ref. Co., Brownwood	1,498.86	1,978.82
Bass & Dillard, Wichita Falls	2,350.52	3,247.94
Biel, William A., Von Ormy	16.00	18.59
Barkley & Conway, Ranger	5,623.61	8,557.66
Brown & Lickey, Wichita Falls	706.31	996.16
Brown, A. J., Fort Worth (7-1-28 to 3-31-29 inc.)	7,246.05	8,792.54

C

Cushing Refining & Gasoline Co., Cushing, Okla.	9,232.67	7,824.23
Cardinal Oil Co., San Angelo	55,273.99	27,656.12
Caruthers Co., San Antonio	1,231.96	1,305.57
Clarkson, William, Jr., Houston	4,673.92	6,318.35
Corpus Christi Oil Co., Corpus Christi	427.07	320.78
Cable-Development Co., Amarillo	590.68	590.68
Camp Oil & Gas Co., The, Wichita Falls	639.32	846.66
Church & Weekley, Fort Worth	72,915.23	61,584.74
Cable Oil Co., Wichita Falls	3,650.71	4,967.90
Central Texas Refining Co., Corsicana	13,090.02	17,044.76
Culbertson Company, Wichita Falls	8,149.87	11,573.99
Carson, Usher, Laredo	798.68	678.88
Craig & Lowrie, Pittsburgh, Pa.	1,336.43	1,417.32
Crabb & McNeel, San Angelo	4,408.41	5,422.34
Currie Oil Corp., Washington, D. C.	321.39	424.19
Canary, S. C., et al, Tulsa, Okla.	310.91	428.55
Carey, C. W., Wichita Falls	6,440.91	8,572.85
Charter Oil Co., Brownwood	7,061.65	10,027.87
Clark, R. R., Wichita Falls	12,746.28	17,890.16
Clark, R. R., et al, Bickley Farm, Wichita Falls	5,590.53	8,138.47
Cockrell-McIlroy Oil Co., Amarillo	32,524.77	37,941.89
Connell-Wixson-Frazier, Eldorado, Kans.	1,139.68	1,287.84
Consolidated Oil Co. of Texas, Wichita Falls	139,267.11	182,177.97
Cosa Oil Co., San Antonio	326.31	479.52
Currie Oil Corp., Washington, D. C.	376.11	537.84
Christie Brothers, Wichita Falls	76,086.73	106,045.12
Crown Oil & Refining Co., Houston	16,802.94	19,224.77
Crown Central Petroleum Corp., Houston	43,610.11	36,665.98
Cranfill-Reynolds Co., Houston	539,602.47	590,362.02
Continental Oil Co., Ponca City, Okla.	1,922,285.14	1,893,909.64
Coppock & Coleman, Iowa, Park	18,621.73	26,756.87
Cullen, H. R., et al, Houston	8,178.42	8,577.51
Cullen and West Production Co., Houston	9,908.95	13,486.55
Comet Petroleum Co., Fort Worth	2,991.09	2,382.88
Central Oil Co., Cameron	3,810.44	4,847.92
Chenault, W. L., Amarillo	563.82	783.22
Cromwell, Carl G., San Angelo	8,257.69	5,822.43
Clear Lake Oil Co., Rockdale	825.07	1,073.39
California Co., Dallas	1,638,535.00	1,318,031.03
Chalk, Otis & Mary, Big Spring	4,520.67	3,174.05
Callihan, George, and Carter Devl. Co., Albany	2,788.01	3,572.32
Cole, W. C., Wichita Falls	1,548.34	2,113.62
Campbell, Alma, Fort Worth	1,238.65	1,667.79
Collins, W. P., Breckenridge	842.08	1,105.67
Clem Oil Co., Houston	472.09	401.26
Carey, E. S., et al, Wichita Falls	86.42	92.47
Carey, E. S., et al, Wichita Falls	649.25	804.46
Cisco Oil Co., Tulsa, Okla.	20,648.22	24,808.50
Campbell, Walter K., Wichita Falls	690.66	994.47
Cosden Oil Co., Fort Worth	552,908.66	539,474.60
Curtis, J. A., Wichita Falls	1,691.48	2,349.64
Carter, Roy L., Wichita Falls	20,279.68	16,083.54
Cullum, F. P., Wichita Falls	9,543.33	12,820.40
Cranfill Bros. Oil Co., Dallas	83,912.05	63,987.67
Cranfill Bros. Oil Co., Wichita Falls	8,623.46	12,243.46
Coline Oil Corp., Oklahoma City, Okla.	4,730.43	6,527.16
Cornhusker Oil Co., Laredo	1,496.46	1,272.01
Clark, C. W., Wichita Falls	13,129.35	18,959.59
Coffield & Hale Oil Co., Rockdale	1,694.31	2,187.42
Clark-Buffalo Oil Corp., Buffalo, N. Y.	751.47	970.54
Crosbie, J. E., Inc., Tulsa, Okla.	5,042.32	4,314.84
Campbell, R. S., Humble	735.69	794.79
Center Field Oil Co., Amarillo	370.04	342.23
Champlin Refining Co., Enid, Okla.	243,299.60	287,638.06
Campbell, R. S. (3-31-29), Humble	883.85	868.41
Cox, Edwin B., Ardmore, Okla.	2,076.61	2,601.95
Corvette Oil Corp., Fort Worth	6,425.94	4,668.60
Chestnut & Smith Corp., Tulsa Okla.	8,150.66	11,249.24
Conner, Son & Cloughley, Gotebo, Okla.	11,972.41	16,586.09
Cohen, Aaron, Baltimore, Md.	6,330.20	9,117.25
Clay, J. D., Houston	2,304.22	2,438.82
Clayton Key Oil & Gas Co., Amarillo	4,198.40	5,032.31
Cunningham, J. C., Graham	5,454.05	6,851.60
Cunningham & Lynch, Graham	18,300.79	25,168.24
Carlin, W. W., Ranger	849.51	1,180.81
Carlin, W. W. (3-31-30), Ranger	1,185.00	1,860.05
Carlin & Tobin, Ranger	379.00	530.60
Carlin & Tobin (3-31-30), Ranger	306.00	474.30
Conway Brothers, Ranger	4,636.49	6,998.72
Conway Brothers, Ranger	296.60	464.02
Conway Brothers, Ranger	3,247.08	4,528.71
Cuno, Mrs. Bertha, Moran	1,889.03	2,462.54
Capitol Oil Co., Orange	1,319.06	1,516.93
Cosden, J. S., Inc., Fort Worth	6,589.22	8,550.25
Canyon Oil & Gas Co., Inc., Cross Plains	1,937.81	2,456.70
Cashdollar & Snyder Brownwood	243.79	275.48

D

Derosa Oil & Gas Co., Amarillo	37,321.60	50,746.66
DeMont, Ira N., Cross Cut	184.22	197.00
Decatur Oil Co., et al (3-31-30), Wichita Falls	857.52	975.27
Dale & Crawford, Electra	658.25	935.84
Davis, W. F. (audit), Wichita Falls	2,194.41	3,260.31
Dayton Oil Co., Dayton	80.44	92.51
Deering, John A., Houston	91,510.45	109,938.75

(Continued on Next Page)

TEXAS GROSS PRODUCTION, SECOND QUARTER, 1930

Name and address—	Barrels	Value
Dixon Creek Oil Co., Amarillo	79,820.90	77,505.81
Douglas Oil Co., Tulsa, Okla.	14,117.65	18,453.21
Dominion Oil Co., Tulsa, Okla.	477.12	632.19
Dalton, Jack, Oil Co., Fort Worth	1,431.42	1,962.68
Duffield & Howard Oil Co., Tulsa, Okla.	757.40	891.22
Danciger Oil & Refing Co. of Texas, Fort Worth	371,581.68	438,281.49
Deutser, B., Tr., Beaumont	1,285.52	1,478.34
Davis, Beatrice H., Tulsa, Okla.	2.17	2.11
Davis, Louise Reyman, Tulsa, Okla.	2.19	2.13
Dunigan Brothers, Breckenridge	5,238.95	6,876.75
Davis, Caroline A., Somerset	291.31	311.69
Dallas Petroleum Co., Houston	320.78	452.07
Derby Oil Co., Wichita, Kans.	3,712.42	3,436.20
Derby & Haines, Wichita, Kans.	3,821.03	3,789.34
Derby, Haines & William, Wichita, Kans.	833.78	648.39
Derby Oil Co., Wichita, Kans.	10,706.36	13,714.99
Davis Oil Corp., Vernon	51,507.71	67,062.25
Dale, Jack B., Wichita Falls	3,117.87	4,393.96
Duquesne Oil Corp., Eastland	79.64	99.95
Dennis, J. S., Moran	2,137.61	2,669.32
Dixie Oil Co., Inc., Tulsa, Okla.	125,466.60	89,656.69
Duke, W. R., Wichita Falls	2,166.33	1,823.04
Dunaway, J. E., et al, Wichita Falls	3,950.99	5,235.14
Delmar Oil Co., Bartlesville, Okla.	52,838.41	59,086.96
Douglas Bros. Oil Co., Electra	1,854.04	2,669.04
Douglas Production Co., Electra	1,338.91	1,814.93
Douglas Bros. & Jones, Electra	439.34	603.10
Dean Oil Co., Burkburnett	396.94	506.49
Dunaway, J. E., Wichita Falls	398.71	531.68
Dorian, R. P., Wichita Falls	7,282.73	10,041.09
Denwich Oil Co., Abilene	1,079.03	1,482.18
Dye & Gillette, Tulsa, Okla.	9,600.90	11,572.51
Devonian Oil Co., Tulsa, Okla.	29,437.40	34,453.38
Dale-Knotts Oil Co., Wichita Falls	295.50	429.41
Dunigan, et al, Pampa	993.03	1,037.01
Darby Petroleum Corp., Tulsa, Okla.	15,821.02	19,515.96
Dittman & Black, Fort Stockton	6,497.14	5,499.33
E		
Emerald Oil Co. of Texas, Winfield, Kans.	2,651.24	2,135.76
Eggers, J. E., Tr., San Antonio	369.51	399.25
Electra Production Co., Inc., Electra	711.95	976.68
Eddleman & Payne, Inc., Wichita Falls	4,862.92	6,998.72
Elsik & Pomykal, Jr., Brenham	994.75	733.30
Engle, E. A., Albany	4,489.48	6,063.91
Edmondson, J. M., San Antonio	1,250.54	1,395.27
Evert & Jameson, Wichita Falls	6,322.68	9,841.46
Eddy Oil Co., Beaumont	754.21	867.34
Easton, E. S., Wichita Falls	986.21	1,383.16
Ewmo Oil Corp., Abilene	8,466.40	10,255.97
Eubank, R. O., and B. K., Cross Plains	848.61	1,580.66
El Rio Oil Co., Amarillo	277.86	243.10
Empire Gas & Fuel Co. (Maine), Bartlesville, Okla.	615,994.23	742,211.45
Eastland Oil Co., Fort Worth	61,775.44	67,478.65
East Batson Oil Co., Batson	14,094.81	16,127.71
Ellis & Lancaster, Beaumont	330.65	380.25
Erie Investments, Ltd., of Texas, Toronto, Canada	470.00	582.80
Ernest Oil Co., Rockdale	200.20	223.87
Erlewine, A. J., et al, Wilson, Okla.	2,390.26	2,449.31
F		
Fox & Adams, Burkett	12,783.27	14,928.30
Fresno Oil Co., Wichita Falls	31,717.49	41,867.08
Fountain Production Co., Saratoga	2,296.19	2,146.64
F. H. & E. Oil Co., Sherman	22,335.37	27,880.20
Fort Bend Oil Co., et al, Houston	11,977.10	12,751.16
Fort Bend Oil Co., Houston	4,912.32	5,609.01
Forest Oil Co., Luling	4,656.86	4,889.70
Frontier Oil Co., San Antonio	9,614.11	11,433.39
Farlyn Oil Co., Houston	10,690.37	7,564.56
Forster, A. R., Coleman	84.00	126.00
French Oil Corp., San Antonio	5,304.48	4,500.80
Farish & Irelan lease, Houston	5,498.19	6,243.85
Fox, Perry I., and William R. Thorsen, Mertzon	1,695.02	1,680.37
Faith Oil Corp., Wichita Falls	207.75	187.33
Four Oil Co., Wichita Falls	1,960.43	2,583.68
Flynn, W. B., Beaumont	12,363.79	14,508.04
Falls Production Co., Wichita Falls	3,270.03	4,523.97
Freeman-Hampton Oil Corp., Wichita Falls	6,476.08	8,653.38
Freeman, J. H., Wichita Falls	3,756.67	4,843.89
Fain-McGaha Oil Corp., Wichita Falls	432,406.03	577,110.49
Finston, Mark, Special Account, Tulsa, Okla.	12,140.80	15,214.88
Ferguson & Watson, Electra	1,215.89	1,715.21
Franklin, Wirt, Ardmore, Okla.	332.78	471.46
Fraser, H. H., Wichita Falls	11,178.09	15,713.48
Farmers State Bank, Burkburnett	505.99	635.02
F. N. Bank-Voe Wright, Wichita Falls	144.85	199.26
Fultz, W. B., et al, Graham	5,635.88	7,400.27
Fisher, J. A., Wichita Falls	1,071.87	1,452.27
G		
Gandy-Peyton Oil Co., Wortham	1,031.13	1,276.31
Goldsmith, N. D., Olney	10,212.09	14,371.95
Grassroots Oil Co., Fort Worth	1,605.30	2,220.76
Glenridge Oil Corp., St. Louis, Mo.	3,453.66	4,531.33
Gilbert Co., Beaumont	6,885.65	7,918.50
Glover and Wall, Vernon	413.85	554.27
Gibson Oil Corp., Amarillo	37,039.99	40,480.37
G. & K. Production Co., Fredericksburg	1,073.66	1,213.94
Grisham-Hunter Corp., Abilene	3,505.30	4,284.46
Gates-Bacon-Lea, Wichita Falls	4,822.56	6,357.32
Granite Oil & Gas Co., Ridgway, Colo.	359.70	519.48
Gray & Adams, Inc., Gainesville	2,287.74	2,315.67
Group No. 1 Oil Corp., Big Lake	516,919.02	724,537.47
Gultex Production Co., Waxahachie	668.55	936.24
Goodwin, P. B., trustee, Breckenridge	4,698.61	3,635.30
Goodwin & White, et al, Breckenridge	517.52	682.11
Godley Oil & Gas Co., Dallas	27,236.69	26,196.00
Gladis Oil Co., Saratoga	2,973.27	2,730.69
Gordon, Ann B., Oil Co., Inc., Dallas	6,083.85	9,029.64
Gibson & Johnson, Inc., Fort Worth	11,970.52	17,940.76
Gilliland-Rosser Oil Co., Wichita Falls	11,873.89	16,911.96
Gilliland, C. W., Wichita Falls	2,669.00	3,690.21
Graham & Lash, Cisco	360.24	516.91
Green & Owens, Brownwood	478.00	685.28
Grayback Development Corp., Wichita Falls	39,941.03	51,613.91
Gwynn-Boyd Drilling Co., Wichita Falls	10,553.72	14,886.19
Gwynn, P. F., Indv. Agt., Wichita Falls	1,297.74	1,911.13
Gwynn, P. F., Wichita Falls	478.49	686.89
Gulnn Production Co., Cross Plains	1,260.79	1,819.98
Gopher Oil Co., Amarillo	1,550.61	1,861.04
Grayburg Oil Co., San Antonio	179,347.27	151,992.46
Gaither Production Co., Rockdale	755.85	982.71
Gordon Oil Co. of Texas, Logan, Ohio	79.84	100.60
Gulf Production Co., Houston	7,345,267.50	7,259,214.91
Gates Oil Co., Ardmore, Okla.	2,769.34	3,830.00
Golden West Oil Co., San Antonio	22,420.67	20,715.34
Grady, D., T. W. Roberts lease, Electra	343.72	479.49
Grady, D., Electra	482.26	699.28
Gilman, R. F., and J. L. McMurray, Cisco	11,919.12	15,945.83
Graham & Harrison, South Bend	4,838.48	6,669.91
Glass Brothers, Rosebud	520.14	663.18
Grayce Oil Co., Wichita Falls	19,232.48	26,026.90
Gorsuch Oil Co., Abilene	4,409.76	5,880.29
Ginter Lang Oil Co., San Antonio	1,378.02	1,672.61
Ginter Jones Oil Co., San Antonio	444.52	506.35
Golding, Dudley S., Wichita Falls	27,969.21	25,990.59
Guernsey Oil & Gas Co., Pampa	18,685.55	26,153.57
Gallagher & Lawson, Desdemona	336.79	406.17
Golding & Cochran, Wichita Falls	46,411.57	62,708.55
Gainesville Oil & Development Co., Gainesville	1,150.98	1,140.63
Guthrie, Cole & Ferguson, Wichita Falls	647.21	849.53
Guaranty Oil Co., Electra	52.05	72.05
Greene Production Co., Fort Worth	40,306.93	37,992.15
Guernsey Oil & Gas Co., Pampa (3-31-30)	13,681.52	18,082.12
Gardner, Wilson & McCaldin, Wichita Falls	1,005.80	1,409.80
Graham, Lake Oil Co., Houston	2,842.02	2,463.43
Gray, K. C., Vernon	395.97	505.56
Gillman Brothers, Amarillo	1,154.35	1,274.44
Gillette, C. W., et al, Tulsa, Okla.	1,538.93	2,287.80
Gates Oil Co., New York, N. Y.	3,388.94	3,336.35
Galvez Oil Corp., Tulsa, Okla.	4,579.19	6,031.85
Godfrey, F. L., Enid, Okla.	56.35	68.08
H		
Hickory Oil & Gas Corp., Fort Worth	995.65	1,316.57
Hyer, Fred, Fort Worth	22,446.24	18,502.82
Handrick, August, Moran	153.50	171.91
Hill, W. R., trustee, Burkburnett	182.00	262.64
Howard, Duffield & Berlin, Tulsa, Okla.	1,416.50	1,656.38
Hyde Production Co., Houston	2,977.82	3,206.52
Harrison Oil Co., Houston	34,939.33	48,973.69
Hyde, George, Houston	4,425.44	4,700.40
Hadlock Oil Corp., El Paso	671.35	678.07
Hedrick-Camp Drilling Co., Wichita Falls	12,966.43	17,630.00
Houghland Production Co., Dallas	2,582.16	2,985.41
Hunter, T. F., Wichita Falls	32,656.97	46,647.56
Heidrich, E. C., Jr., Amarillo	5,847.95	5,961.33
Holloway, R. R., receiver, Brownwood	1,219.86	1,537.02
Hawkins, W. L., Wichita Falls	2,252.28	2,701.58
Hamilton, W. B., Wichita Falls	159.45	178.58
Houston Production Co., Houston	55,814.73	66,471.67
Hardy Oil Co., Wichita Falls	1,682.02	2,338.96
Hoffman & Page Co., Eastland	26,823.04	35,583.65
Howard County Oil Corp., Big Spring	36,783.31	30,771.33
Hefley, McIntosh & Thomas, Cameron	571.27	721.49
Hardie, J. M., & Co., Sour Lake	169.88	187.13
Helvetia Oil Co., San Antonio	11,091.24	12,297.03
Hunter Oil Corp., Chicago, Ill.	32,256.82	45,411.98
Hammon, W. H., Wichita Falls	23,930.10	34,269.07
Hammon & Heyser, Wichita Falls	10,517.95	14,040.14
Hobbs Oil Co., Tulsa, Okla.	1,057.25	1,464.60
Hammun Oil Co., Smithport, Pa. (3-31-30)	334.00	410.82
Hammun Oil Co., Smithport, Pa.	203.00	229.39
Herring, S. C., Brownwood	958.00	1,378.75
Hirvey, T. J., et al, Corsicana	59.40	75.93
Hope Oil & Gas Co., Fort Worth	9,622.45	12,689.06
Herbert Oil Co. of Texas, Fort Worth	7,807.74	10,340.36
Hoffman, P. L., Cisco	1,605.59	2,247.82
Hickok Producing & Development Co., Toledo, Ohio	642.47	756.51
Hill & Dowell, Batson	11,508.77	13,235.08
Hines, Henry, Wichita Falls	3,335.94	4,819.40
Hamilton, W. L., Bridgetown	916.02	1,300.78
Howell, M. L., Lohn	520.00	639.60
Hawley, J. A., Gdn., Ottawa, Ontario, Canada	312.64	273.53
Halliday, H. J., Beaumont	831.33	946.26
Halliday & Laughman, Beaumont	396.73	456.24
Howard Petroleum Corp., Tulsa, Okla.	1,057.35	1,258.37
Hanlon Gasoline Co., Tulsa, Okla.	1,434.33	1,769.81
Hart Oil Corp., Fort Worth	221.49	317.23
Holcombe, Thomas, Wichita Falls	957.76	1,337.94
Humble Oil & Refining Co., Houston	7,622,276.04	8,493,953.84
Houseman, D. H., & Co., Dallas	29.86	41.60
Hitchman & Howard, Inc., San Antonio	1,958.63	2,309.87
Hemby, J. M., Electra	957.41	1,309.15
Harris & Simons, Tulsa, Okla.	5,554.28	3,864.14
Houston Oil Co. of Texas, et al, Houston	552,268.68	477,423.51
Hamilton & Martin, Wichita Falls	1,427.31	1,906.37
Hoppes, W. T., Burkburnett	599.19	835.34
Hoppes, W. T., Burkburnett	62.64	86.60
H-Y Oil Co., Inc., Fort Worth	16,907.84	22,965.50
Hamilton, Walter R., Tr., San Antonio	4,164.04	5,328.67
Huffman Oil Corp., Amarillo	3,411.92	2,925.12
Huffman Oil Corp., Amarillo	3,946.37	3,766.32
Hemisphere Oil Corp., New York, N. Y.	18,794.32	22,618.69
Herrogan Oil Corp., Pampa	18,945.72	21,611.23
Hart, J. R., Baird	552.06	751.83
Halmack Oil Co., Dallas	222.47	319.52
Hamon, Jake L., Ardmore, Okla.	27,313.56	37,827.04
Harper Petroleum Corp., Bryson	44,655.84	63,827.99
Harwell, E. P., Tulsa, Okla.	1,838.67	1,634.93
Hedges, F. M., Wichita Falls	207.33	289.22
Heydrick, L. C., Wichita Falls	15,882.80	19,769.79
Henson, G. D. & R. V. Tidwell, Graham	6,438.64	8,804.23
Holbrook & Woods, Wichita Falls	6,236.15	8,417.33
Homaokla Oil Co., Tulsa, Okla.	3,703.77	5,632.72
Holmes, Hill, Seibold & Holmes, Amarillo	17,535.35	23,245.96
Holmes, Huey & Holmes, Amarillo	17,764.25	23,497.10
Holmes, W. H. & W. W., Amarillo	1,491.67	1,910.57
Houston Gulf Gas Co., Houston	7,739.56	6,683.32
Humphreys Brothers, Inc., Houston	1,891.52	2,546.57
Humphreys Corp., Houston	400,852.48	458,785.55
H. B. J. Oil & Gas Trust, Baltimore, Md.	1,955.17	2,675.16
Hobson & Voorhees, San Antonio	563.88	715.07
Holmes & Huey, Borger	1,913.13	1,989.66
Home Oil & Gas Co., Inc., Albany	1,939.75	2,458.44
Horn, T. W., Houston	1,398.41	1,608.18
Hanlon Gasoline Co., Tulsa, Okla.	1,811.81	2,304.26
Hobbs, Ferguson & Neeley, Adams & Gibson, Tulsa, Okla.	1,634.65	2,182.61
Holder, F. W., Breckenridge	281.74	330.19
Hughes, J. K., Oil Co., Mexia	19,587.62	24,869.41
Hampton & Wilson, Wichita Falls	115.95	138.82
Hambleton, George, San Antonio	384.10	422.45
I		
Indian, The, Big Oil & Development Co., Gainesville	1,049.40	1,416.69
Infield Petroleum Co., Austin	592.75	674.68
Independent Oil & Gas Co., Tulsa, Okla.	482,507.74	446,395.97
Isaacs, B. K., Recv. J. K. Hughes Dev. Co., Fort Worth	1,051.44	1,151.85
Ingram, J. A., Shawnee, Okla.	705.41	722.17
Irick Oil Co., Waskom	189.68	238.05
J		
Jones, J. A., Moran	250.53	355.29
Jones, J. F., et al, Abilene	170.45	201.41
Jones, O. P. & C. J. Oates, Ptnshp., Amarillo	2,002.49	3,106.59
Jackson Co., San Antonio	961.21	1,074.24
Julia Oil Co., Sour Lake	3,123.30	3,591.80
Judson Oil Co., Tulsa, Okla.	6,543.07	9,140.99
Jackson, J. S., Tr., Sour Lake	2,723.09	3,131.55
Jones, Edwin M., San Antonio	122,378.84	113,577.66
Janellen Oil Co., Tulsa, Okla.	230.14	272.24
Justin Oil Corp., et al, Wichita Falls	7,792.49	11,204.04
James, Tom, Albany	7,452.61	10,255.97
Johnson Brothers, San Antonio	5,567.92	6,694.24
Jones, W. A., Minerva	1,802.45	2,245.41
Jones, Hugh, Burkburnett	3,085.89	4,041.48
Jones, J. E., Wichita Falls	2,665.36	3,674.02
Jacob Oil & Gas Co., Graham	1,503.17	2,245.32
Johnson, D. O., Wichita Falls	22,039.60	30,979.86
Jackson, T. H., Sipe Springs	86.78	103.55

(Continued on Next Page)

TEXAS GROSS PRODUCTION, SECOND QUARTER, 1930

K

Name and address—	Barrels	Value
Kay, A. W., Recvr., Graham	975.20	1,310.47
Kimmell & Woofter, Wichita Falls	4,823.83	7,203.98
Kimbell, George T., and John L. Bostic, Burkburnett	4,629.02	6,110.31
King, R. A., Tr., Wichita Falls	2,506.54	2,130.55
Kent, G. C., Corsicana	19,040.11	22,698.25
Knotts, F. G., Wichita Falls	654.37	940.83
Kerr, T. P., Corsicana	517.41	678.82
Kleiner, Charles J., Cisco	23,814.29	32,114.44
Kleinfelder, B. F., Breckenridge	326.99	433.35
Knowles, R. L., New York (1-1929, 1-1930)	3,823.00	139.33
Kay, A. W., and W. B. Fultz, Graham	15,524.93	21,454.51
Kuhlemeier-Kleiner Oil Co., Cisco	914.95	1,261.92
King Royalty Co., Wichita Falls	148,589.06	205,089.19
Keck Investment Co., Los Angeles, Calif.	5,539.24	4,902.12
Kemrow Co., Wooster, Ohio	13,237.76	18,303.53
Kokomo Petroleum Co., Gorman	386.57	525.02
King & Daniel, Wichita Falls	5,995.87	8,549.24
Kelly, George L., Tr., Wichita Falls	393.91	535.72
Kurz, A. A. (3-31-30), Somerset	303.24	336.57
Kurz, A. A., Somerset	303.24	347.18
Kahle, Gracey & Diver, Bridgeport, Ill.	2,982.19	2,111.01
Kurz Oil Co., Somerset	463.84	473.10
Kirby Petroleum Co., Houston	91,121.80	73,595.30
Knox, D. M., Graham	52,196.39	73,086.65
Keystone Production Co. of Texas, Fort Worth	2,722.28	3,841.72
Kidney-Kamon et al, Fort Worth	3,941.44	5,656.46
Kavanaugh Petroleum Co., Houston	4,069.44	5,353.48
Kewanee Oil & Gas Co., Titusville, Pa.	162,316.49	223,008.14
Kate Bell Oil Co., Dallas	723.80	1,006.42
Keener Oil & Gas Co., Tulsa, Okla.	3,814.76	4,967.22
Killam, O. W., Laredo	180,332.21	150,643.40
Kisk Oil Co., Wichita Falls	899.67	1,176.94
Klemcke, George, Tr., Von Ormy	1,442.46	1,531.40
Kolp, C. F., Electra	23,347.74	30,927.57
Kohlman, Richard, Iowa Park	458.00	633.35
Kaufman, L., San Antonio	303.24	309.30
King, Anna B., Muskogee, Okla.	215.58	149.48
Kirk & Son, Gorman	9,995.76	11,450.10
Kistler, Frank E., & Co., New York, N. Y.	4,596.06	4,120.71

L

Larcro Gas & Petroleum Co., San Antonio (3-31-30)	28,310.41	15,120.00
Lytle, C. F., Mexia	12,745.41	16,098.94
Lee, Homer, Wichita Falls	13,179.20	18,125.03
Loggie & Arendt Oil Co., Albany	2,156.00	2,630.00
Lockhart & Co., Los Angeles, Calif.	88,828.90	91,348.55
Lobban, J. T., et al, Electra	52.69	71.66
Lowe, Delaney & Carter, De Leon	246.64	300.90
Laredo Oil Co., Laredo	723.20	723.20
Letwin & Lippitt, Breckenridge	12,945.63	17,200.33
Lewis Production Co., Pittsburgh, Pa.	64,550.95	82,296.01
Lion Oil Refining Co., El Dorado, Ark.	576,604.64	441,738.24
Long, Roy, Oil Co., Navasota	1,797.50	2,390.29
Lynch, John D., Tr., Sioux Falls, S. D.	1,486.77	2,211.66
Lesh & McCall, Nocona	21,714.53	15,039.31
Lake View Oil Co., Sour Lake	11,040.39	12,695.24
Lido Oil Co. and McGinley Sigler Co., Wichita Falls-Ft. Worth	35,782.76	41,926.02
Louisiana Oil Refining Corp., Shreveport, La.	236,528.04	266,841.19
Landreth Production Corp., Fort Worth	413,524.66	358,365.50
Lawson, Eugene B., Tulsa, Okla.	66,302.75	88,487.78
Laredo Oil Co., Laredo	481.92	530.11
Little, William, Breckenridge	245.92	308.62
Little Caddo Syndicate, Fort Worth	1,383.25	1,993.59
Luling Oil & Gas Co., San Antonio	54,881.07	46,171.04
Lebow, C. H., Tulsa, Okla.	1,228.01	1,786.45
Long, C. B., et al, Wichita Falls	298.90	365.36
Lackey, W. G., Co., Tulsa, Okla.	1,980.36	2,561.43
Lomax, Thornton, Jr., Wichita, Falls	2,014.80	2,881.16
Lefors Petroleum Co., Lefors	39,117.42	46,704.36
Leiser-Rochmill Production Co., Inc., Fort Worth	1,431.82	1,886.18
Len-Cook Oil Co., Electra	439.05	617.63
Linedo Oil Co., Lincoln, Neb.	1,016.23	863.79
Little Flower Oil Co., St. Louis, Mo.	343.09	416.64
Levy & Evans, trustee, Fort Worth	81.22	91.67
Levy, Leonard M., trustee No. 2, Fort Worth	1,128.51	1,532.27
Lindsay, R. W., Drilling Co., Graham	1,308.47	1,844.94
Lesh, John L. & Co., Wichita Falls	4,101.11	4,507.29
Levy, Leonard M., trustee No. 1, Fort Worth	2,109.19	2,865.80
Lone Star Gas Co., Dallas	58,903.00	88,414.54
Lewis, J. E., et al, Eastland	1,081.19	1,447.57
Lowenstein Oil Co., Rockdale	1,024.88	1,301.59
Lee, T. P., and E. M. Wilson, Houston	5,485.03	5,955.20
Ledger Oil & Gas Co., Brownwood	826.06	1,140.38
Long, L. A., Graham (3-31-30)	5,929.44	8,946.28
Long, L. A., Graham	25,951.18	36,836.61
Lewis, J. E., & Co., Eastland	1,477.35	2,197.32
Last Chance Gas Co., Pampa	1,077.61	1,453.71
LaSalle Petroleum Co., Tulsa, Okla	3,690.52	4,828.88
Lesh, Kilcrease & Co., Nocona	2,229.05	1,747.81
Leonard, George, Somerset	963.21	1,016.67
Leonard Oil Co., Somerset	194.55	208.17
Lain Oil Co., Somerset	1,190.09	1,273.96
Lain Oil Co., Somerset (3-31-30)	1,202.27	1,346.78
Lee & Scott, Inc., Houston	1,760.69	2,024.79

Mc

McFall, J. M., Wichita Falls	638.70	883.21
McDaniel Oil Corp., Cisco	4,885.58	7,198.57
McLean, Marrs, Beaumont	66,600.77	62,651.99
McCarter, R. C., Rising Star	419.17	549.11
McLester Oil Co., Eastland	9,520.98	14,564.12
McMurray, J. L., et al, Cisco	2,010.19	2,896.38
McJunkin, Florence T., et al, Tulsa, Okla.	633.43	883.64
McAlbert Oil Co., Inc., Houston	1,265.70	1,253.04
McAlbert Oil Co., Inc., Houston	142,844.13	153,059.36
McNamara Oil Co., Beaumont	2,404.22	2,764.86
McBride, W. C., Inc., St. Louis, Mo.	5,775.58	7,087.77
McCutchen, C. E., trustee, Wichita Falls	6,694.30	9,277.55
McCutchen, C. E., Wichita Falls	352.23	499.29
MacDermott, Fort Worth	695.79	937.79
McDonald & Campbell, Dallas	13,102.22	17,176.11
McGinley-Sigler Co., Fort Worth	8,971.69	10,498.67
McMan Oil & Gas Co., Tulsa, Okla.	1,217,272.49	1,159,280.42
McMurray, Root & Rhodes, Eastland	953.00	1,448.00
McCrary, E. W., Tulsa, Okla.	5,500.61	6,897.37
McChesney, Nancy, Olney	5,156.55	6,392.48
McNallen & Griffin, Tulsa, Okla.	5,438.31	7,035.33
McCarty Oil Co., Wichita Falls	84,324.96	120,715.34

M

Minerva Petroleum Co., Minerva	684.43	920.55
Major, A. W., Laredo	3,438.36	2,881.07
Mordyan Petroleum Co., Pampa	51,230.96	64,608.53
Mason, J. F. (Ogle lease), Putnam (6-30-30)	1,943.44	2,614.92
Mason, J. F. (Williams lease), Putnam (3-31-30)	845.78	1,115.99
Mason, J. F.(Ogle lease), Putnam (3-31-30)	2,118.75	2,791.79
Mason, J. F. (Williams lease), Putnam (6-30-30)	1,044.64	1,430.53
Milham Corp. of Texas, San Antonio	2,047.73	2,889.96
Meredith & Gant, Wichita Falls	2,340.74	2,748.24
Macknold Co., San Antonio	210.83	212.26
Mecom Oil Co., Liberty	2,555.92	2,939.30
Minor Oil Co., Beaumont	8,174.68	9,400.88
Meredith, J. D., receiver, Oyler & Morris lease, Moran	4,053.05	4,371.43
Mills & Garrity, Corsicana	1,838.32	2,022.15
Montgomery-Rea-Montgomery, Sedwick	1,270.08	1,710.27
Midland Oil Co., Fort Worth	385.43	435.08
Mudge Oil Co. of Texas, Pittsburgh, Pa.	.....	.....
McIlroy Oil Co., Amarillo	34,275.86	31,993.70
Millikin, L. L., Burkburnett	319.41	416.33
Moran Co., Wichita Falls	17,086.52	22,332.25
Midwest & Gulf Co. of Texas, Tulsa, Okla.	1,516.91	1,683.57
Murchison Oil Co., Fort Worth	62,814.94	51,396.75
Minnehoma Oil & Gas Co., Tulsa, Okla.	1,564.88	1,398.14
Mitcham, G. P., Cisco (3-31-30)	952.05	1,188.89
Mitcham, G. P., Cisco (6-30-30)	906.35	1,185.56
Mid-Continent Petroleum Corp., Tulsa, Okla.	15,237.60	19,875.37
Moss, Urschel & Keys, Dallas	9,293.04	11,883.76
Moss & Urschel, Dallas	14,304.25	18,004.61
Merrick & Bristow, Ardmore, Okla.	58,608.44	37,375.18
Merrick & Lamb, Ardmore, Okla.	31,739.16	28,836.14
Mid-Kansas Oil & Gas Co., Findlay, Ohio	4,851,448.51	3,905,008.32
Merrick & Belcher, Wichita Falls	7,661.90	11,927.81
Merrick & Goldsmith, Wichita Falls	5,978.39	8,495.20
Magnolia Petroleum Co., Dallas	3,137,380.20	3,330,974.17
Marquette Oil Co., Albany	834.00	1,050.84
Midwest, Exploration Co., Denver, Colo.	179,406.84	220,207.02
Minnich, A., Archer City	205.20	226.24
Marine Corp., Dallas	4,144.73	3,600.06
Marnet Oil & Gas Co., Tulsa, Okla.	5,484.26	7,206.92
Moody Seagraves Producing Co., San Antonio	635,363.13	597,433.96
Morgan, Roy, et al, Fort Worth	954.32	1,334.42
Moore, N. A., Eastland	795.99	1,124.19
Mendenhall Oil Co., Cisco	1,327.36	1,971.67
Madden, E. B., Olney	14,316.92	22,331.56
Madden & Hunt, Olney	19,762.62	32,539.89
Madden, E. B., Olney	2,533.55	3,671.44
Medio Oil Co., San Antonio	968.98	1,152.03
Madison Oil & Gas Co., Electra	4,315.71	6,264.87
Mount & Lee, Inc., Wichita Falls	1,963.05	2,545.76
Martin & Hamilton, Wichita Falls	3,284.53	3,974.28
Martin, N. H., Wichita Falls	27,584.07	32,447.81
Maxwell, J. C., Fort Worth	53,997.44	46,718.20
Magee, R. B., Electra	1,053.35	1,456.45
Medina Oil & Gas Association, San Antonio	152.61	168.44
Mann & Forbes, Graham	3,286.87	3,493.74
Mann, Floyd, Graham	1,331.21	1,830.41
Marts, E. R., Dallas	2,711.98	3,468.19
Massie, J. H., Wichita Falls	114,293.21	160,231.20
Mayberry, C. R., Co., Laredo	2,287.52	1,944.38
M. C. H. Oil Corp., Albany	877.11	1,036.36
Mills Bennett Production Co., Houston	410,124.48	438,120.82
Moore, F. L., trustee, Tulsa, Okla.	1,643.85	2,071.74
Morgan, T. P., San Antonio	16,895.15	2,456.75
Mues & MacDermott, Fort Worth	328.94	435.32
Menke, John G., Wichita Falls	1,144.26	1,554.05
Mennis, G. W., First Natl. Bank executor, Wichita Falls	3,195.70	4,223.21
Mozzie Oil Corp., Eastland	1,493.06	1,831.51
Minntex Oil Corp., Wichita Falls	762.55	900.31
Marshall, George S., Laredo	5,599.17	4,759.29
Meridian Petroleum Corp., Tulsa, Okla.	3,756.05	4,846.24
Moody Corp., Tulsa, Okla. (3-31-30)	601,919.62	496,221.68
Moody Corp., Tulsa, Okla.	356,628.07	456,457.63
Mid-Continent Holding Corp., Wichita Falls (3-31-30)	14,920.05	20,814.27
Meredith & Benton & Curt Horrmaun, Cisco	584.00	798.89

N

Newport & Ohio Petroleum Co., Newport, N. Y.	473.21	644.62
National Oil Co., San Antonio	667.69	686.53
Newton & Lillie, Shreveport, La.	18,116.96	20,694.75
Navarro Oil Co., Houston	199,127.50	213,127.38
Number Nine Oil Corp., Tulsa, Okla.	2,741.14	3,755.21
Nabob Oil & Gas Co., Amarillo	22,649.48	27,278.39
Newton-Palmer Oil Co., Rockdale	373.53	489.32
Nimrod Oil Co., Dallas	90.69	123.22
Noack & Lanning-Phillips & Perry, Rockdale	75.71	96.53
Nash & Windfohr Oil Corp., Graham	194,420.21	278,098.39
Nash, Windfohr & Perry, Austin	53,040.60	55,692.63
Noack & Lanning-Shelton, Rockdale	229.29	300.37
Noack Oil Co., Rockdale	1,416.20	1,838.77
North Fork Oil Co., Amarillo	4,656.07	5,520.15
Nutt & Gates, Wichita Falls	2,595.81	3,773.81
Nunn-Stubblefield Oil Co., Amarillo	20,382.00	27,515.70

O

Owenwood Pool No. 3, Fort Worth	3,889.70	5,042.03
Old Colony Oil Co., Dayton	1,147.00	1,289.89
Orange Petroleum Corp., Orangefield	24,534.84	28,123.84
Oriental Oil Co., Dallas	431.46	542.00
O'Brien, W., Amarillo	936.39	964.47
Owen-Sloan Oil Co., Philadelphia, Pa.	77,895.34	56,327.09
Olney Oil & Refining Co., Wichita Falls	187.17	248.00
Oasis Oil Co., Wichita Falls	545.71	706.03
O'Neil, John, Wichita Falls	13,229.09	18,239.53
Oil Fields Corp. of Arkansas, El Dorado, Ark.	90.00	121.50
Oldom, William P., Iowa Park	667.00	946.04
Ohio Somerset Oil Co., The, Cleveland, Ohio	1,302.59	1,280.09
Ocean Oil & Refining Co., El Paso	882.00	882.00
Onsen, M., Kansas City, Mo. (3-31-30)	817.63	1,112.30
Onsen, M., Kansas City, Mo. (6-30-30)	814.80	1,142.82
Oil Royalty Corp., Brownwood	146.04	146.04
Owens, Sherwood B., Brownwood	7,338.08	10,149.53
Olean Petroleum Co., Bristow, Okla.	16,559.16	13,232.77
Oil Investment Co., Wichita Falls	1,751.33	2,332.23

P

Pivoto, M. E., Sour Lake	7,623.72	8,723.43
Pollard, W. E. & C. E., Pampa	4,767.08	5,782.86
Powell, F. L., Wichita Falls	365.23	489.61
Piper, L. E., Vernon	1,881.93	2,634.96
Powers Production Co., Houston	1,839.10	1,603.82
Pitzer & West, Breckenridge	20,588.47	29,110.80
Perkins & Snider lease, Wichita Falls	4,842.84	7,009.99
Pandem Oil Corp., Wichita Falls	40,754.54	55,754.37
Pinney Oil & Gas Co., New York, N. Y.	3,395.08	2,974.58
Pearson, W. L., Properties, Inc., Corpus Christi	162,906.08	171,051.32
Phillips, J. R., Amarillo	3,412.21	3,220.72
Portland Drilling Corp., Wichita Falls	727.80	1,001.34
Plymouth Oil Co., Pittsburgh, Pa.	101,428.71	84,826.29
Price, Russell & Co., Ranger	3,934.72	5,518.87
Permian Oil Co., Eastland	18,316.96	28,393.81
Pemeta Oil Co., Fort Worth	3,688.13	5,268.11
Prairie Oil & Gas Co., Prairie Shamrock Operating Acct., Independence, Kans.	63,156.15	83,025.01
Pecos Crude Oil Purchasing Co., San Angelo	2,951.02	2,621.50
Palm, et al, F. N., Albany	1,053.97	1,123.50
Powell, H. J., San Antonio	5,039.25	5,400.80
Philp Brothers, Beaumont	3,832.54	4,365.63
Paraffine Oil Co., Houston	10,252.68	11,707.45
Pettit Oil Corp., Trees, La.	1,190.27	1,722.75
Pioneer Oil, Gas & Refining Co., Danville, Ill.	1,055.72	1,240.75
Putnam Oil Co., Tulsa, Okla.	38,334.69	51,067.76
Producers & Refiners Corp. of Texas, Independence, Kans.	11,715.47	16,028.01
Perkins & Cullum, Wichita Falls	251,284.68	310,581.43
Perkins, J. J., Wichita Falls	2,093.04	1,755.63
Panhandle Refining Co., Wichita Falls	210,198.19	282,919.49
Pace & Ward, Breckenridge	1,697.04	2,232.80
Pure Oil Co., Chicago, Ill.	2,000,960.77	2,075,921.42
Pure Oil Co., Chicago, Ill.	482,750.92	559,781.05
Palmer & Burch, Inc., Wichita Falls	10,649.74	14,808.62
Prairie Oil & Gas Co., Independence, Kans.	114,830.67	1,222,808.86
Pharis Oil Co., Amarillo	389.62	344.81

(Continued on Next Page)

TEXAS GROSS PRODUCTION, SECOND QUARTER, 1930

Name and address—	Barrels	Value
Py-Tex Oil Co., Brownwood	1,110.37	1,603.65
Pace, George L., Wichita Falls	1,823.81	2,523.29
Paggi, Charles, & Co., Beaumont	695.33	799.62
Paggi Brothers Oil Co., Beaumont	7,556.30	8,689.73
Palo Duro Oil Co., Amarillo	2,933.11	3,016.55
Peery, Thomas H., Wichita Falls	28,166.00	40,116.03
Petroleum Producers Co., Wichita Falls	121,820.71	170,331.97
Phillips Petroleum Co., Bartlesville, Okla.	2,533,680.87	1,596,693.56
Pols Fine & Schulz, Wichita Falls	771.38	1,103.07
Pols, M., et al, Wichita Falls	3,796.11	5,333.48
Pols, M., Wichita Falls	218.01	301.22
Poor Boy Oil Co., Rockdale	387.64	494.25
Pratt, Thomas H., Brenham	344.40	279.40
Producers Drilling Co., Wichita Falls	2,595.68	3,540.70
Progressive Production Co., Kansas City, Mo. (6-30-30)	1,229.27	1,679.26
Progressive Production Co., Kansas City, Mo. (3-31-30)	1,219.94	1,650.12
Preston Oil & Gas Co., Brownwood	149.31	192.61
Pansota Oil Co., Amarillo	6,307.00	7,455.35
Parry Oil Co. of Texas, Fort Worth	33.98	41.46
Producers Supply & Tool Co., Marietta, Ohio	5,450.39	5,437.23
Petroleum Investment Co., Wichita Falls	3,230.80	4,554.71
Pilkerton, F. L., Burkburnett	968.94	1,283.34
Poole, R. O., Batson	2,505.88	2,861.10
Primrose Oil Co., Sour Lake	904.74	1,040.45
Panhandle & Santa Fe Railway Co., Wichita, Kans.	7,646.09	4,969.96
Q		
Quincey Oil Co., Vernon	180.83	256.73
Quinn, J. W., et al, Eastland	2,339.61	3,462.93
Quarter Oil Co., Tulsa, Okla.	2,080.33	3,061.06
R		
Richardson & Kelsey, Fort Worth	25,937.56	23,105.36
Ramming, Staley & Ramming, Wichita Falls	528.28	683.90
Ramming, R. W., Wichita Falls	3.81	4.56
Ramming, William F., Wichita Falls	170.49	231.50
Robinson, Arthur D., Dallas	6,362.98	7,332.20
Rentex Oil Co., San Antonio	7,242.43	8,392.90
Rhodes & Highers, Breckenridge	4,568.90	6,273.98
Ruyle Farm & Oil Co., Wichita Falls	6,615.13	9,337.46
Red River Oil Co., Tulsa, Okla.	26,368.77	36,552.00
Refugio Oil Corp., Refugio	167,906.26	140,493.10
Richards, M. L., Wichita Falls	309.96	428.24
Reeder, R. S., et al, Wichita Falls	1,519.35	2,094.07
Reno Oil Co., Sistersville, W. Va.	52,960.39	74,422.74
Republic Production Co., Houston	495,348.52	512,434.34
Riggs, E. R., Graham	46,997.70	66,596.02
Riggs, E. R., & J. T. Oliphant, Graham	9,006.82	12,148.42
Robertson, R. R., Wichita Falls	7,428.70	9,425.58
Riner & Omohundro, Wichita Falls	14,039.88	19,979.73
Riner & Bailey, Wichita Falls	37,402.58	53,231.04
Ryan Consolidated Petroleum Corp., Tulsa, Okla.	88,296.90	117,717.97
Rancho Oil Co., Fort Worth	12,293.26	15,608.03
Roeser & Pendleton, Inc., Fort Worth	187,615.75	256,988.15
Richardson Trust Co., Markley	2,213.07	2,850.61
Reserve Petroleum Co. of Texas, Tulsa, Okla.	529.69	766.67
Roth & Faurot Oil & Gas Co., Independence, Kans.	4,312.68	6,199.34
Rex Petroleum Corp., Vinton, La.	19,666.75	21,505.79
Rowe, J. G., Wichita Falls	2,893.25	4,135.60
Rycade Oil Corp., Houston	84,037.37	83,321.57
Reed, W. M., Albany	1,330.10	1,628.89
Reinhart, M. J., Trustee, Oklahoma City, Okla.	422.40	584.30
Rathke Oil Co., Wichita Falls	26,222.47	37,131.08
Remington, E. H., Newcastle	10,678.00	15,495.91
Rockwell, J. A., & Co., Warren, Pa.	2,121.58	2,989.79
Rex Petroleum Corp., Vinton, La.	18,840.57	21,503.45
Reclamation Co., Fort Worth	5,548.34	7,183.61
Rockdale Junior Oil Co., Rockdale	232.45	296.38
Robinson, J. B., Sour Lake	245.71	282.57
Rio Bravo Oil Co., Houston	371,835.03	410,165.43
Rountree & White, Rockdale	620.38	805.19
Rex-Tex Oil Co., Brownwood	1,110.37	1,603.65
Ruby Oil Co., Minerva	232.47	304.53
Rock Oil Corp., Ponca City, Okla.	3,894.96	4,733.90
Roeser & Pendleton, Inc., Fort Worth	1,008.52	1,284.32
Ramsel, W. T., Oil Co., Rockdale	1,687.16	2,194.34
Randado Oil Corp., Oklahoma City, Okla.	19,081.75	16,130.49
Red Bank Oil Co., Tulsa, Okla.	11,768.83	16,253.14
Reiter-Foster Oil Corp., Tulsa, Okla.	14,868.54	19,978.62
Root Drilling Co., Eastland	7,324.00	9,998.00
Root, Rhodes, Gilman & McMurray, Eastland	6,074.00	8,312.00
Root & Fehl, Eastland	8,367.00	10,946.00
Root & Rhodes, Eastland	4,608.00	6,223.00
Robert Oil Corp., Breckenridge	22,475.25	30,776.75
Robinson, O. D., Pittsburgh, Pa.	1,342.79	1,343.40
Russell & Wilson, Wichita Falls	3,546.04	4,526.57
Ruthada Oil Co., Ardmore, Okla.	1,493.64	1,261.93
Ruthada Oil Co., Ardmore, Okla.	19,775.76	18,344.75
Rexal Petroleum Corp., San Antonio	15,518.96	16,183.60
Robertson Drilling Co., Fort Worth	232.50	307.79
Ranell Oil Co., Oklahoma City, Okla.	4,473.17	6,026.18
Rochmill, Henry, Fort Worth	583.90	722.98
Ross, C. E., Burkburnett	444.40	529.42
Ramsey, E. H., Rising Star	602.23	905.82
Ribble, O. C., South Bend	241.69	328.70
Reeder & Scarborough, Wichita Falls	3,878.42	5,435.05
Rock Creek Oil Corp., Amarillo	5,787.59	5,409.64
Rubsam & Hunter, Wichita Falls	5,204.24	7,584.27
S		
Stratton, Ed. F., Pioneer	278.53	331.53
Simmons, T. K., Tulsa, Okla.	1,203.13	1,566.45
Shattuck, Mrs. Nellie S., Dallas	2,985.96	3,935.57
Speed, C. D., Corsicana	231.60	310.21
Schlicher Oil Co., Beaumont	739.29	850.19
Stella Oil Co., Beaumont	12,742.77	14,532.13
Supreme Oil Co., Orange	2,916.82	3,312.16
Storey-Friebele-Duffey Oil Co. Winston-Salem, N. C., (12-31-29)	9,024.04	9,441.06
Storey-Friebele-Duffey Oil Co., Winston-Salem, N. C., (9-30-29)	7,232.04	7,358.20
Storey-Friebele-Duffey Oil Co., Winston-Salem, N. C., (3-31-30)	7,920.36	6,526.51
Staley, J. A., Wichita Falls	1,587.41	2,088.06
Salado Oil Co., San Antonio	1,567.91	1,906.21
Southern Drilling & Production Co., Bay City	69,994.99	83,940.15
Strawn, J. C., and A. Fisher, Electra	767.82	953.06
Sircovich, A., and Mrs. F. M. Thomas, Houston	617.56	553.41
Shallow Sand Oil Co., Fort Worth	163.87	205.65
Schaffner-Wilson, et al, Wichita Falls	1,915.50	2,909.14
Strelsky, Joe and Hefley, Rockdale	375.46	496.78
Smith, Levi, et al, Texon	22,867.90	38,823.93
Smith, Levi, and Fred Hyer, Texon	788.96	1,166.86
Smith, Levi, and J. C. Shaffer, Texon	131.58	147.37
Smith, Levi, Texon	509.02	735.77
Sinclair Oil & Gas Co., Houston	299,751.36	328,651.05
Sand Creek Oil Co., Amarillo	4,012.59	4,318.74
Shackelford, F. L., Wichita (4-1-29 to 3-31-30)	3,170.70	4,938.65
Stein, H., Ranger	424.00	537.20
Swenson, E. P., Stamford	.....	.....
S. & W. Oil Co., Amarillo	7,596.96	6,485.19
Schermerhorn-Winton Co., Minneapolis, Minn.	75,906.98	61,281.50
Shamrock Oil & Gas Co., Amarillo	158,920.39	188,936.63
Sink, Joel, Corsicana	199.50	273.50
Skelly Oil Co., Tulsa, Okla.	749,687.68	784,279.02
Smor Oil Co., Graham	322.58	421.88

(Continued on Page 157)

Lorraine Automatic Tubing Spider

Lorraine
IF IT'S LORRAINE MADE -IT'S A LEADER

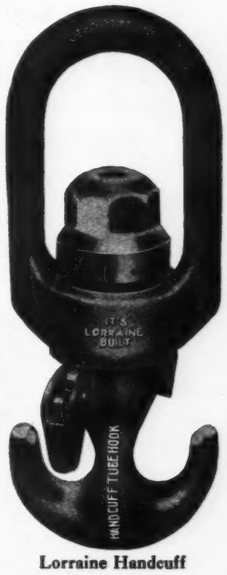
Tubing Can't Drop

With This Automatic Stop Device!

If string falls, this unfailing Lorraine-Made Automatic Tubing Spider embodies a simple, automatic device that STOPS IT INSTANTLY!

The Automatic Tubing Spider is an invaluable safeguard against loss of time and labor. Tubing may be run in wells with much greater speed and ease, plus absolute safety.

Simple in principle, but wonderfully effective in operation. Strong, durable, and trouble-proof.



Lorraine Handcuff Tubing Hook

Double Safety!

For Elevator and Tubing

The double hook feature of this newly developed Lorraine Handcuff Tubing Hook, absolutely prevents dropping the tubing, even though an elevator link or one of the hooks should part—as the other hook and link have ample strength to carry the load.

Elevator links are easily attached or removed, but when locked cannot possibly become unhooked.

Write for full details concerning either or both of above devices.

THE LORRAINE CORP.
MANUFACTURERS AND DISTRIBUTORS
OIL WELL SPECIALTIES
115th and Alameda Streets
Los Angeles, Calif.

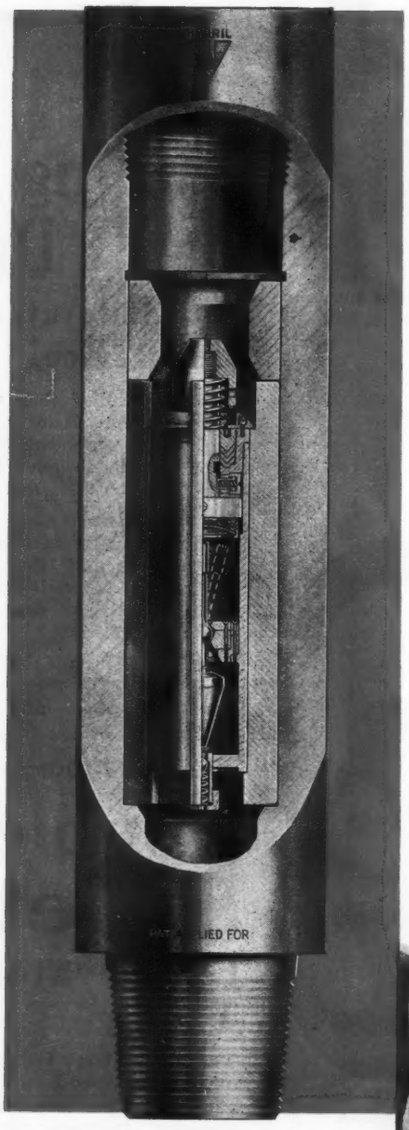
Mid-Continent Distributors:
The National Tank Co.,
Tulsa, Oklahoma

Export Distributors:
American Steel Export Co., Inc.
295 Madison Ave., New York

SURVEY AS YOU DRILL

»» use the QUICK and ACCURATE

HYDRIL
ANGLE INDICATOR



The **HYDRIL** *Angle Indicator is carried in a sub interposed between the drill pipe and drill collar The record is made on a metal disc, accurately calibrated in degrees. These discs are a permanent record of the progress of the well.*

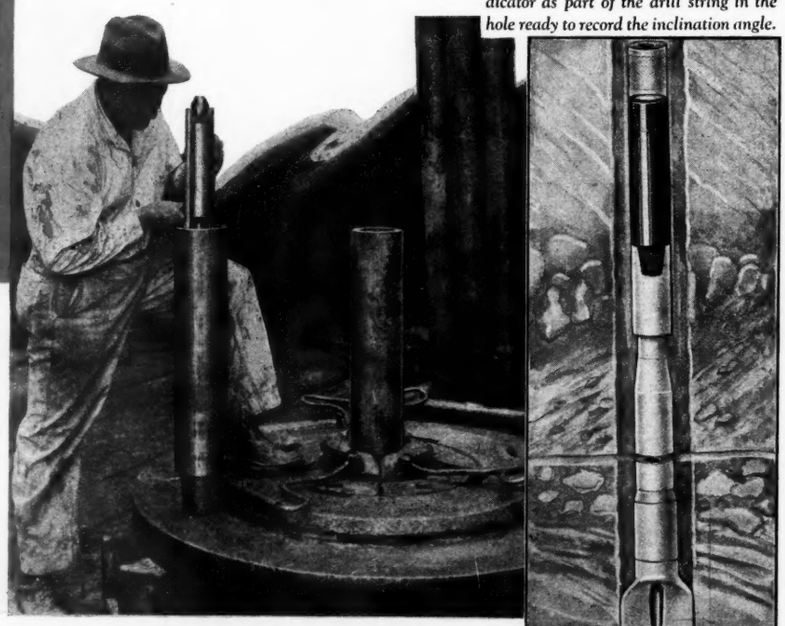
THIS NEW indicator is very simply and scientifically designed to give immediate and accurate readings without further use of any auxiliary apparatus.

The angle of the well is instantly recorded in permanent form, and in quicker time than any previous device has been able to do. Readings may be taken before starting to drill, or just before coming out of the hole. It takes but a few seconds and does not interrupt drilling operations. Any member of the drilling crew can change the record disc in a few minutes.

The disc readings may be made per each change of bit. This keeps the driller constantly informed of the inclination of the hole, and this must be done to keep it vertical and straight.

The **HYDRIL** Angle Indicator has been used for many months on many wells, and wherever used it has won immediate approval.

This cut shows the **HYDRIL** *Angle Indicator as part of the drill string in the hole ready to record the inclination angle.*



Photograph taken at Signal Hill. Shows the **HYDRIL** *Angle Indicator being inserted in the sub, preparatory to being run in the well as part of the drilling string.*

Send for complete information and a sample disc » » »

DOHENY STONE DRILL COMPANY

714 West Tenth St., Los Angeles

Cable Address . . . HYDRIL, Los Angeles

KANSAS FIELDS

(Continued from Page 52)

quarts and swabbed 780 bbls. the first 22 hours.

Barber County

Barbara Oil Co.'s No. 1 Root, C N half SW, Section 24-33-13w, is a rig on ground.

Butler County

Connell and others' No. 1 Nixon, NW cor. NW, Section 23-27-5, has been abandoned in lime at 2,790 feet. National Refining Co.'s No. 1 Settergreen, NW cor. NW, Section 32-26-4, is a rig on ground. Tidal Oil Co.'s No. 1 Corbin, SE cor. NW, Section 6-27-4, has been completed in sand 2,917-19 feet for 800 bbls. Johnson and others' No. 1 Stern, SW cor. NE SE, Section 28-27-6, has been completed for 40 bbls. in lime from 3,047-54 feet. Pioneer Petroleum Co.'s No. 1 Crist, NW cor. SE, Section 33-26-4, has been abandoned in lime at 2,996 feet. Callahan & Lassen's No. 1 Mackerel, SE cor. SW, Section 10-26-6, has been abandoned in lime at 3,280 feet.

Chase County

Polhamus and others' No. 4 Leidy, C NW, Section 36-22-9, has been completed for 20 bbls. in lime 2,500-10 feet, total depth 2,563 feet.

Coffey County

Linn Oil & Gas Co.'s No. 3 Barngrover, SW cor. NE NW, Section 7-23-15, has been completed for 35 bbls. in lime 1,575-87 feet. Hoyt and others' No. 2 Scott, NW cor. SE, Section 13-23-14, has been abandoned at 1,631 feet. Ritchey and others' No. 1 Assenmacher, C SE, Section 36-22-13, has been abandoned at 7,250 feet.

Cowley County

Roth & Faurot's No. 1 Brant, SE cor. SW NE, Section 12-32-4, is a rig on ground.

Greenwood County

Empire Oil & Refining Co.'s No. 10-A Brandenburg, NE cor. NE, Section 22-27-5, is a rig on ground. International Oil Co.'s No. 2 Lowery, SE cor. SE, Section 21-26-9, is a machine. Tulsa Oil Co. has rig on ground for No. 2 Beauchat, SW cor. SE SW, Section 6-24-12. Aladdin and Phillips' No. 1 Spain, NE cor. NW SE, Section 13-23-9, is a location. Aladdin Petroleum Co.'s No. 4 Jones, SE cor. NW, Section 36-24-10, has been abandoned in lime at 1,901 feet. Tulsa Oil Co.'s No. 1 Thrall, NW cor. NE NW, Section 7-24-12, has been completed for 50 bbls. in lime 1,786 feet.

Kingman County

Skelly Oil Co.'s No. 1 Miles, NE cor. NE, Section 30-27-10w, is a cellar.

Morris County

Pratt and others' No. 1 Whiting, NW cor. SW SW, Section 34-16-6, is a machine.

Morton County

McNabb and others' No. 1 Rickerts, C SE, Section 5-35-39w, has been completed for 6,000,000 feet of gas in sand 2,640-2,805 feet. Argus Production Co.'s No. 2 Mangel, C NW, Section 4-34-39w, has been completed for 13,458,000 feet of gas in sand 2,615-2,851 feet. No. 1 Dreibelbis, C NE, Section 9-34-39w, has been completed for 6,009,627 feet of gas in sand 2,655 2,900 feet. Argus Production Co.'s No. 1 Thompson, C NW, Section 18-34-39w, has been completed for 5,500,000 feet of gas in sand 2,478-2,810 feet. No. 1 Mangel, C SE, Section 4-33-39w, has been completed for 1,500,000 feet of gas in sand 2,570-2,773 feet, after plugging back from 3,312 feet.

Pawnee County

Deep Rock Co. and Phillips Petroleum Co.'s No. 1 Cuthbertson, NE cor. NE, Section 27-20-18w, is a location.

Rice County

Braden & McClure and others' No. 1 Groves, NW cor. NE SW, Section 27-20-10w, has been abandoned at 3,364 feet. Robertson and others' No. 1 Snyder, NE cor. NW SE, Section 27-20-10w, has been abandoned in lime 3,404-05 feet.

Rooks County

Krueger and others' No. 1 Stites, NW cor. SE SW, Section 12-9-16w, has been abandoned at 575 feet.

Russell County

Empire Oil & Refining Co. and the Prairie Oil & Gas Co.'s No. 2 Ochs, SE cor. NE, Section 23-15-14w, has been completed for 245 bbls. in sand 3,371 feet.

Rush County

Danciger Oil & Refining Co. and others' No. 1 Neve has been abandoned at 3,606 feet.

Sedgwick County

Aladdin Petroleum Co. and others' No. 1 Christman, SE cor. NE NE, Section 25-27-1, is a rig. Producers & Refiners Corp. and others' No. 1 Mackey, SE cor. NW SW, Section 30-27-2e, is an old well rigging up to deepen from 2,970 feet. Fisher & Lauck's No. 6 Trustee, NW cor. NE SE, Section 19-27-2e, is a rig. Derby Oil Co. is building rotary for No. 2 Eastborough, SE cor. SW NE, Section 19-27-2. Magnolia Petroleum Co. is building rig for No. 1 Eastborough, SW cor. SE NE, Section 19-27-2. Vickers Petroleum Co. has rig on ground for No. 3 Keys, SW cor. NW NE, Section 30-27-2. Producers & Refiners Corp. and others' No. 1 Turner, NW cor. SE, Section 30-27-2, is a rig on ground. Vickers Petroleum Co.'s No. 2 Keys, NW cor. NE, Section 30-27-2, has been completed for 271 bbls. in chat at 2,942-78 feet.

Stevens County

Argus Production Co.'s No. 2 Christopher, C NE, Section 10-33-39w, is a location. No. 1 Shaffer, C SW, Section 5-33-38w, is a location. Trees Oil Co.'s No. 1 Brecheisen, C NW, Section 3-35-38w, has been completed for 10,000,000 feet of gas in sand 2,618-2,825 feet. Argus Production Co.'s No. 1 Stone, C NE, Section 3-33-39w, has been completed for 8,000,000 feet of gas in sand 2,505-2,705 feet. No. 1 Wagoner, C S half SE, Section 17-33-38w, has been completed for 5,068,960 feet of gas in sand 2,520-2,757 feet.

EASTERN FIELDS

(Continued from Page 78)

on the Walter A. Compton farm in Washington district. The same company is drilling at 700 feet its test on the R. Pickens farm in the same district. In Putnam County, Curry district, J. V. Reishman has reached 1,620 feet in his test on the Thomas McCallister farm. In Jefferson district, Lincoln County, the Hamlin Drilling Co. is down to 1,400 feet in a test of the Richard Miller farm. In Chapmansville district, M. V. Jennings, trustee, has taken a location for a test on the Chapman, Logan County.

F. F. McIntosh and others have started drilling on the J. C. Starcher farm, in Smithfield district, Roane County. In the same district, J. L. Storts and others have reached 1,460 feet in their test on the C. O. Boggs farm. In Reedy district, the Heck Oil Co. is down to 2,550 feet and nearing the sand in a test on the A. W. Thorn farm.

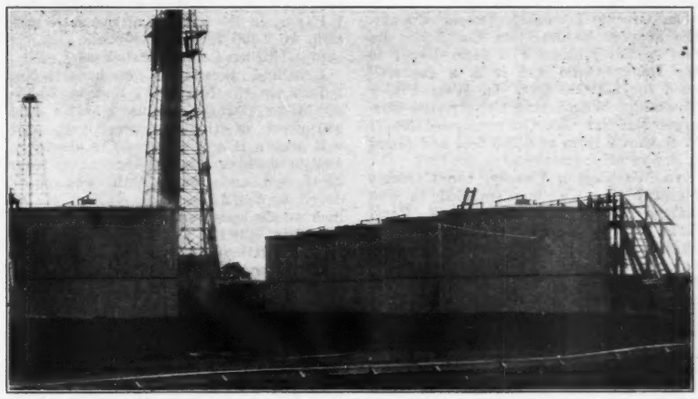
In Ritchie County, Rexroad & Robinson have rigged up for a test on the M. C. Cumberledge farm in Murphy district. In the same district, C. B. Lewis and others have a rig ready for No. 1 on the W. P. Baker farm.

The Pittsburgh & West Virginia Gas Co. is drilling at 150 feet in its test on the Louisa J. Carpenter farm, Church district, Wetzel County. In Center district, Wade, Carnet and others are down to 2,400 feet in a test on the G. M. Lemasters farm and have been waiting on water. D. W. Null and others have a rig standing on the W. Barrack farm in Church district.

In Wirt County, Hart and others have reached 1,935 feet in their test on the Charles M. Wine farm in Tucker district. In Reedy district, the Heck Oil Co. has spudded in and shut down for water in its test on the H. B. Price farm. Its No. 3 on the J. E. and J. G. Watkins in the same district is shut down at 400 feet, also for water. In Reedy district, Roane County, this company has taken a new location on the J. W. Conley farm.

SOUTHWEST PENNSYLVANIA

The best oil well for the week in Southwest Pennsylvania was in the pool in Buffalo Township, Butler County, close to the Allegheny County line. Here the T. W. Phillips Gas & Oil Co. completed its test on the John W. Obringer farm to the Fifth sand at 2,190 feet and



Ten 1,000-Bbl. Maloney Storage Tanks erected in the Oklahoma City Field by Maloney Sales Corp., Distributer.

Built and Equipped to Hold Vapor Pressures Up to 16 Ounces

MALONEY Vapor-Pressure Tanks are made of not less than 12-gauge steel, with half-inch bolts, heavy angle reinforcements and ties, and high-grade aluminum paint. They are equipped with efficient combination valves set at 16 ounces pressure and 2 ounces vacuum—and are amply strong to withstand such pressures.

This construction eliminates important losses of oil income by preventing the escape of valuable vapors and thus maintaining the volume and gravity of the oil.

"Alone in Quality"

Maloney A.P.I. Bolted Steel Tanks conform with A.P.I. dimensional standards and carry the official A.P.I. monogram.

MALONEY TANK MFG. CO.
Tulsa, Okla., U.S.A.

Distributers at All Principal Petroleum Points

MADE OF ALUMINE AMERICAN

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

MALONEY ALONE

it is making 20 bbls. a day. In Clinton Township of this county, Heater & Co. drilled their test on the Joseph Halstead farm to the Speechley farm at 2,792 feet and have a light gas well.

In Greene Township, Greene County, the Peoples Natural Gas Co. drilled its test on the William Fox farm deeper to the Bayard sand and it is a gas well good for 500,000 feet. In West Finley Township, Washington County, the Carnegie Natural Gas Co. completed No. 1 S. S. Clovis farm at 3,265 feet and found it dry in all formations.

In Washington County, the Carnegie Natural Gas Co. has spudded in and started drilling No. 1 on the F. Rasel farm, in West Bethel Township. In South Franklin Township, the same company has reached 1,970 feet in its test on the Fanny Weir farm. In East Finley Township, H. V. Sproules & Co. are down to 2,910 feet in their test on the H. M. Plants farm. In Morris Township, the Duquesne Gas Co. has reached 2,040 feet in its Hugh Montgomery No. 1.

Greene County is also affected by a lack of water. In Springhill Township, the Caseman Oil & Gas Co. has a rig standing for No. 2 on the Morge Caseman farm. George Drake and others have reached 1,220 feet and are shut down for water in their test on the Dean Piatt farm in Center Township. In Wayne Township, the Duquesne Gas Co. is nearing the sand and has reached 3,065 feet in its E. R. Clovis test. The Carnegie Gas Co. has had to shut down for water at 2,000 feet in its second test of the George Bowers farm, Perry Township.

LA.-ARK. FIELDS

(Continued from Page 54)

Sarepta district, list. S. H. Riggs, trustee's No. 1 L.&A., Section 1-22-11, had been shut down at 2,100 feet, and Nos. 2, 3 and 4 in Section 36-23-11 were locations. Evans and others No. 1 Crichton Co., in Section 31-18-8, near Dubberly, in the southern end of the parish attracted notice when it topped the Arkadelphia 85 feet high at 1,490 feet.

South Arkansas

South Arkansas results duplicated those in North Louisiana with only one producer, in Champagnolle, and a wildcat that might possibly be classed as a producer. The Champagnolle well was Magnolia Petroleum Co.'s second completion of No. 1 W. K. Gregory in Section 15-17-14, deepened from 2,851 feet to 2,864 feet, where it pumped 65 bbls. initial. The wildcat was South El Dorado Oil Co.'s No. 1 Traylor, Section 9-19-15, which pumped 5 bbls. 70 per cent water from 2,186 feet.

J. G. Marcum's No. 1 McGarry in Section 10-19-4, Ashley County, abandoned at 3,300 feet last December, was abandoned again when it got salt water at 3,555 feet. Tidal Oil Co.'s No. 1 Freeman-Smith, Section 3-16-14, Calhoun County, likewise was a failure, dry at 3,507 feet. Malloy & Co.'s No. 1 Murphy, Section 1-18-16, and No. 3 Robertson, Section 6-18-15, Union County, were abandoned as locations.

MISSISSIPPI

Three operations in the Jackson gas district of Hinds and Rankin Counties, Mississippi, were accounted for. Capital Oil & Gas Co.'s No. 1 Brown, SW SE, Section 28-6-1e, made 15,000,000 feet of gas at 2,503 feet and the other two were failures. Capital Oil & Gas Co.'s No. 1 Clark, Section 10-5-1e, set 8¼-inch on top of the chalk, which is the producing formation, at 2,501 feet and bailed to 500 feet off bottom when the well started flowing salt water and abandoned the hole when it lost returns after drilling to 2,628 feet. Marine Oil & Gas Co. drilled to 3,063 feet on No. 1 Country Club in Section 31-6-1e and abandoned the hole in igneous rock. Gulf Refining Co. has the rig up for No. 1 City of Jackson, in the NE SE, Section 10-5-1e, and has begun drilling No. 1 Crane, in the NE NE, Section 26-6-1e, Hinds County, and is down around 600 feet with No. 1 Hartfield, in the SW NW, Section 7-5-2e, Rankin County. Pearl River Oil & Gas Co.'s No. 1 Pate, in the NW SE, Section 12-5-1e, Rankin County, is a rig and Southern Petroleum Co.'s No. 1 Investment Co. is a derrick in the same quarter section. Ohio Oil Co. is arranging to make a drill stem test on No. 1 Payne, in the SE NE of the same section, at 2,395 feet in the chalk.

Miller County, Arkansas

Lenz and others have gone back to No. 1 Dale, in the NW NW, Section 25-15-26, Miller County, Arkansas, half a mile southwest of the discovery well, and will deepen it a few feet. The discovery well is showing for 100 bbls. or so from 2,847 feet and No. 1 Dale was abandoned at 2,842 feet with 85 feet of 10-inch as the only pipe in the hole. Meantime Big Bill Oil Co. has derrick up in the NW SW, Section 30-15-25, for No. 1 Dean, and E.&F. Oil Co. has derrick up for No. 1 Beck, in the NW SW, Section 36-15-26, the one 2 miles south of the discovery well and the other 1¼ miles southeast.

There hasn't been much buying on the part of major companies but independents and individuals are active, Texas operators being in the majority so far. The three operations referred to are the only ones so far that have been begun since Lenz and others' No. 1 Johnson, in the NE SW, Section 24-15-26, developed as a producer, but once this well is standardized and demonstrates what sort of producer it is participation in the play probably will be largely extended.

Pipes & Mack have 26,000 acres of the Melton Lumber Co. land centering on Section 16-13-10, Tensas Parish, Louisiana, from which they are to select 14,000 acres for a 3,000-foot test to be begun in 45 days. Humble Oil & Refining Co., which has been doing extensive geological and geophysical exploration across the central portion of the State, has taken 6,000 acres on 10-year commercial leases centering around Section 32-8-8, Concordia Parish. J. D. Eylers and associates of Shreveport have taken 1,500 acres centering on Section 10-8-11, Sabine Parish, southwest of Marthaville, for which a 2,500-foot test to be begun within 90 days was part of the consideration. S. D. Hunter has taken a block of 2,600 acres centering on the corner of Townships 19 and 20, Ranges 2 and 3, Union Parish, on five-year commercial leases. W. F. Hyde has turned his 17,000-acre block centering on Section 26-23-11, West Carroll Parish, to the Arkansas Fuel Oil Co. for $3,000 and a 3,500-foot test, retaining the oil rights on a few hundred acres of the block.

ROCKY MOUNTAIN AREA

(Continued from Page 61)

the brown lime at 2,748 feet and the elevation is 3,636 feet.

Prairie's Operations

Prairie Oil & Gas Co.'s No. 2 Selman, SW cor. NE, Section 15-19-38, is still a location, and its No. 1 Grimes, SW cor. NW, Section 28-18-38, spudded on August 6 and is drilling at 124 feet in the red beds.

Shell Petroleum Corp.'s No. 1 Berry, SE cor., Section 31-18-38, is drilling out plug after cementing the 9⅝-inch at 2,800 feet, and its No. 2 State, NW SW NE, Section 32-18-38, is drilling at 4,175 feet in lime. It had gas at 4,032 feet. Same company's No. 3-A State, SE cor. NE, Section 32-18-38, is drilling at 3,869 feet in lime, and its No. 4-A State, SW cor. NE, Section 32-18-38, cemented the 9⅝-inch at 2,750 feet. Last named topped the brown lime at 2,748 feet. The elevation is 3,637 feet. Shell's No. 1-B State, NW cor., Section 33-18-38, is drilling at 1,470 feet in red rock and cemented the 12½-inch at 240 feet, and its No. 1 Grimes, SW cor., Section 28-18-38, is drilling at 1,536 feet in anhydrite. Same company's No. 2 Grimes, NW cor. SW, Section 28-18-38, is drilling at 444 feet in red rock. Its No. 2 McKinley, SW cor. SE. Section 19-18-38, is drilling at 3,345 feet in lime. The top of the lime was at 2,795 feet and the elevation is 3,657 feet. It had gas at 2,814 feet. Same company's No. 3 McKinley, SE cor., Section 19-18-38, is building rig, and its No. 4 McKinley, SE cor. SW, Section 19-18-38, cemented the 9⅝-inch at 2,750 feet. Shell's No. 5 McKinley, NW cor. SE, Section 19-18-38, cemented the 9⅝-inch at 2,750 feet. It topped the salt at 1,635 feet and bottomed it at 2,555 feet. The elevation is 3,460 feet. Same company's No. 6 McKinley, NE cor. SW, Section 19-18-38, is drilling at 2,545 feet in salt. It topped the anhydrite at 1,480 feet and the elevation is 3,661 feet. Its No. 7 McKinley, NW cor. SW, Section 19-18-38, is drilling at 1,450 feet in red rock.

Skelly Oil Co.'s No. 1 Fowler, NW cor., Section 31-18-38, cemented the 9⅝-inch at 2,750 feet. It bottomed the salt at 2,532 feet and the elevation is 3,650 feet.

The Texas Production Co.'s No. 2-C State, SE cor. NE, Section 25-18-37, is a cellar, and its No. 1 McKinley, NE NW SW, Section 4-19-38, is drilling at 3,620 feet.

The Texas Pacific Coal & Oil Co.'s No. 2-G State, NE cor. SE, Section 24-18-37, is drilling at 1,431 feet in red rock.

The Tidal Oil Co.'s No. 1 Hardin, SW cor. NE, Section 19-18-38, cemented the 9⅝-inch at 2,758 feet. It bottomed the salt at 2,550 feet and the elevation is 3,661 feet. Same company's No. 2 Grimes, SW SE NE, Section 29-18-38, is drilling at 2,710 feet in anhydrite. It bottomed the salt at 2,520 feet and the elevation is 3,652 feet.

Eunice Area—Lea County

A well being closely watched is the Tidal Oil Co.'s No. 1 Colman, SW cor. NE, Section 17-21-36, in the Eunice area, 12 miles to the south and east of the Hobbs Pool, which may reveal the importance of the pool opened last January in the Continental Oil Co.'s No. 1 A. E. Meyers, NE SW SW, Section 17-21-36. The Continental's well was completed at 4,001 feet and gauged 1,300 bbls. the first 24 hours after being connected with the Texas Pipe Line Co.'s 6-inch line to the Lea Pool. The Tidal's No. 1 Colman is bottomed at 3,970 feet and flowing by heads, making between 7 and 10 bbls. per hour. It is about half a mile to the northeast of the Continental well, and is running higher, measured on the top of the lime. The 6⅝-inch was cemented at 3,868 feet, below a show of oil and gas at 3,849-67 feet. The Texas Pipe Line Co. has made a connection and contracted to run up to 1,000 bbls. a day. This production will be accepted at tidewater by the Tidal Refining Co. The Colman well topped the lime at 2,880 feet. George F. Getty, Inc.'s No. 1 State, NE cor. Section 19-21-36, one-fourth of a mile to the southwest of the Continental well, is drilling at 3,088 feet. It topped the brown lime at 2,935 feet and had the first gas at 2,974 feet. The elevation is 3,626 feet, and is running about 40 feet higher than the Continental well. Continental Oil Co.'s No. 1 William Meyers, SW cor. NW, Section 28-22-36, is sidetracking at 3,670 feet, within 5 feet of old bottom, where it had considerable gas. Ohio Oil Co.'s No. 1 State-McDonald, NW SE, Section 15-22-36, cemented casing on top of sand at 3,645 feet with good showing of both oil and gas.

Jal Area—Lea County

Midwest Refining Co.'s No. 19 Farnsworth, SW SW, Section 14-26-37, rattailed to 3,101 feet and is resuming at 3,095 feet. The small hole showed gas.

Eddy County

George F. Getty, Inc.'s No. 5 Dooley, SE NW, Section 23-20-69, Twin Mounds, is drilling at 1,235 feet in sandy lime and had a show of gas at 1,172 feet.

San Juan County

Continental Oil Co.'s No. 24, Section 1-29-19, Rattlesnake Dome, has rig completed. It is to be drilled with rotary to the Pennsylvanian formation to test the horizon in which oil was discovered in its No. 17 two years ago. The discovery well in the Pennsylvanian had about 800 bbls. a day from a total depth of 6,771 feet and has been a consistent producer, but it was not a satisfactory test due to inability to shut off water just above the pay.

COLORADO

A contract has been signed by trustees of the Meeker Dome Association and the Ohio Oil Co. whereby the Ohio company secures a lease on the Meeker Dome in Rio Blanco County, in western Colorado, and agrees to start a deep test to the Pennsylvanian formation on or before June 1, 1931. The Meeker Dome lies approximately 25 miles east of the Rangely Dome and the same distance southwest of the producing fields in Moffat County. It is considered one of the most promising structures in Colorado and the agreement was made after the Ohio's geological staff had made a detailed study of the entire area extending over several months. The Marland Oil Co. drilled a well in the NE SW, Section 20-1n-96, in 1924, but at 1,990 feet it ran into a crevice at the contact between the red beds and the top of the Pennsylvanian formation. The hole flowed around 90,000 bbls. of water per day and the company spent months trying to control it and drill deeper, but finally abandoned the test. The Ohio is expected to spot its well far enough away to miss this crevice and to drill to approximately 4,000 feet with a rotary. The test probably will go to 6,500 feet unless commercial production is found. There is more than 4,000 acres of deeded land on the structure besides some Government land. The importance of this test is greater than the possibility of bringing in a new field. The Rangely Dome, 25 miles to the west, has shallow production in the shale and gas in the Dakota. The Pennsylvanian has never been drilled, but there has been careful consideration of the possibilities in that formation. To the northeast, the Thornburg, where gas was found in the Dakota, the Iles and the Moffat Domes, all have possibilities in the Pennsylvanian. The Meeker structure is considered an ideal site for a test to that horizon and the results may have far-reaching consequences. The land owners on the Meeker Dome acted through an organization in which they pooled their holdings and this association, the Meeker Dome Association, acted through its trustees, Thomas B. Scott, Claude Wilson, Ezra Baer, L. B. Waldridge and Dr. R. H. Taylor.

Larimer County

Continental Oil Co.'s No. 1 Hoffman, SW NE, Section 23-4n-70, Deininger Dome, is bottomed at 485 feet and running 10-inch. The hole has been in red sand most of the way and has had a little water. Same company's No. 3 Scott, SW SE, Section 6-9n-68, Wellington Dome, is drilling at 4,577 feet and carrying the 6¼-inch. The 8¼-inch was cemented at 4,518 feet. This well is drilling deeper from the Muddy sand and is through the Dakota, which carried water. C. Leonard Smith's No. 1 State, SE cor. Section 36-12n-70, Sand Creek, lost hole below 60 feet and skidded rig and is drilling at 60 feet in new hole. Donahoe & Babcock's No. 1 Maxwell, NE NE, Section 25-8n-70, Bellvue, is drilling below 300 feet.

Weld County

Eastman Oil Co.'s No. 1 Steel, SE NE, Section 14-2n-67, Fort Lupton district, is drilling below 80 feet in a 20-inch hole for a Dakota test. Platte Valley Petroleum Co.'s No. 1 Patterson, SW SW, Section 24-6n-61, Greasewood, is still shut down at 6,295 feet with the 4¾-inch 15 feet off bottom, waiting to renew leases. This work is reported about done and drilling probably will be resumed next week. It has several hundred feet to go to reach the Dakota.

Arapahoe County

McDeb Drilling Co.'s No. 1 Fitzsimmons, NE Section 7-4s-66, Aurora district, which has been held up at a total depth of 5,692 feet for the past month on account of collapsed 6¼-inch, has succeeded in straightening out the kink by swedging, and is cleaning out. The 4¾-inch will be run before any new hole is made. J. W. Merritt and others' No. 1 Union Pacific, SE NW, Section 17-5s-64, is drilling below 150 feet.

El Paso County

Utemoor Syndicate's No. 2 Carson, NW NE NE, Section 10-16s-66, Fountain district, is temporarily shut down at 1,125 feet. It used gas for fuel from No. 1 Carson, a few hundred feet away, until a cave shut off the flow. No. 1 was drilled to 1,900 feet. No. 2 Carson is being drilled with a standard rig.

Jackson County

Charles L. Hendershot, one of the pioneers of Salt Creek and other Wyoming fields, upon whose permit the Producers

& Refiners Corp.'s No. 1 Hendershot, SE NE, Section 2-6n-81, Pole Mountain area, was drilled, says the report that this well had gone through the Dakota when it was abandoned at a total depth of 4,258 feet, is incorrect and that that horizon was not reached. The beds proved to be much thicker than expected and the 165-foot sand cut at 3,955-4,120 feet, in his opinion, may have been either the Hygiene or the Wall Creek. While this sand carried water, he says gas was encountered both above and below and had sufficient pressure to force the water 6 feet over the top. The gas was not tested as the company was seeking oil, and he believes it was in commercial volume. The show of gas under such heavy pressure, he believes, was sufficient to justify another test. The Producers & Refiners had the Dakota series as the objective and it stopped when indications pointed to that horizon being too deep to reach in that hole. The formations were even deeper in the Midwest well, 3 miles to the east.

Morgan County

Reliable information concerning the status of the Indian Territory Illuminating Oil Co.'s No. 1 State, NE NE, Section 16-1n-57, Fort Morgan anticline, is still hard to get. Best information available, though not confirmed, is that it is drilling below 3,000 feet and has missed the Hygiene sand which was expected somewhere between 2,200 and 2,400 feet. This sand forms a definite marker if found, but failure to pick it up may indicate its absence.

Boulder County

Reliance Oil Co.'s No. 1 Anderson, NE SW, Section 18-3n-70, west of Lyons, is drilling below 820 feet.

Huerfano County

Ojo Exploration Co.'s No. 1, Section 5-29s-69, is drilling at 490 feet in black shale.

La Plata County

The McGarr Petroleum Corp.'s No. 1, SE NE, Section 27-33-12, Red Mesa, is drilling at 2,265 feet. The Murchison Oil Co.'s No. 1 Doescher, SW NW, Section 29-33-13, is bottomed at 475 feet and is laying water line to the La Plata River.

Mesa County

Argo Oil Co.'s No. 1 Hoel, NE cor., Section 23-8s-104, High Line, is still sidetracking at 2,765 feet.

Garfield County

Fulton Petroleum Co.'s No. 1 Smith, NE NW, Section 8-8s-102, Garmesa, is drilling at 1,460 feet.

Rio Blanco County

Tide Water Associated Oil Co.'s No. 1 Amazon, SE cor., Section 24-2n-103, Rangely Dome, is plugging back from 4,800 feet to test sand at 3,717-45 feet. If nothing commercial is found, it will plug back to the gas sand in the Dakota to test.

Routt County

Texas Production Co.'s No. 7 Quaintance-Hocking, NE SE, Section 18-6n-86, Tow Creek, is bottomed at 3,640 feet and preparing to test.

Moffat County

Texas Production Co.'s No. 12 Knowlton, SW SE, Section 33-5n-91, Moffat Dome, is coring in the Sundance at 4,547 feet. The 6¼-inch was cemented at 4,509 feet. Same company's No. 4 Wick, NW NW, Section 10-4-91, is temporarily suspended at 4,109 feet awaiting completion of No. 12 Knowlton. Vermillion Oil & Gas Syndicate's No. 1 Marshall, SW SE, Section 23-9n-100, Marshall Springs, drilled to 750 feet a sa validating hole, is shut down. Two offers to deepen it as a test are pending. Midwest Refining Co.'s No. 24 Hannewalt, SE SE, Section 4-6n-92, Bell Rock, is bottomed at 2,936 feet and drilling by 10-inch bit with 8-inch tools. Keoughan & Myers' No. 1 State, SW SW, Section 16-4n-101, Midland Ridge, is drilling below 2,465 feet. It is about at the horizon where results may be expected and S. O. Keoughan is at the well.

Archuleta County

The Standard Oil Co. of Colorado's No. 1 Fitzhugh, SE SW, Section 34-33n-1e, Chromo Dome, is drilling at 410 feet in shale with oil continuing to show in the hole. Same company's No. 2, NW NE SW, Section 34, is spudding at 40 feet.

MONTANA

In the Border Field in the International Boundary, the Monalta Oil Co.'s No. 3 Buckley reached the pay at 2,530 feet and has a showing for a small producer. It will be drilled deeper.

The strike at the O'Neil well north of Cut Bank leads to the opinion that the area will develop into a new gas field and as the gas is quite wet it is looked upon as profitable as an oil field would be. The O'Neil well is now measured at 15,000,000 feet daily and the gas was found in the Sunburst sand at 2,750-65 feet. The Texas Company's well drilling about 6 miles southwest of the O'Neil strike is being watched with interest and it is at 1,800 feet.

The Texas Pacific Coal & Oil Co. is to start a well in the Woman's Pocket Dome, in Golden Valley County, and this test is to go to the Madison lime unless production is found.

WYOMING

Midway Dome

The Midwest Refining Co.'s No. 11 Middy, C NE NE, Section 23-35n-79, Midway Dome, is still having trouble clearing the hole of drilling water and no satisfactory test has yet been possible. The hole was bailed down to 2,500 feet and over night the oil rose to the top and slopped over. The gas pressure is increasing some. There is still approximately 150 feet of drilling water in the hole. When this is out, if the well does not flow, it may be put on the pump. The results will determine whether it will be drilled deeper into the sand. As the well stands, it is good for 250 to 300 bbls. Total depth is 5,187 feet, 30 feet of sand having been penetrated.

Weston County

The Osage district in northeastern Wyoming is taking a new lease on public interest as a result of several big wells completed in recent months and another was added this week in the Lambie Oil Co.'s No. 2 Bock, CSL SW NE, Section 14-46-64, in what is known locally as the Jones Pool. One screw into the sand at 1,686 feet resulted in a flow of 700 bbls. in 12 hours, which is about the record for the field. Pipe line runs last week, including deliveries to refiners, averaged 1,300 bbls. per day. One other completion was Moss and others' No. 1 Foster, NW SW SE, Section 24-46-64, which was dry to 1,686 feet. Osage Trust Co.'s No. 4, NE NW SW, Section 14-46-64, half a mile to the west of the Lambie well, is running casing on top of the sand, and its No. 6, SW cor. SE, Section 14-46-64, is drilling at 1,000 feet. Same company's No. 7, NW SE, Section 14-46-64, is rigging up. Yellowstone Petroleum Co.'s No. 1, NE NW NE, Section 23-46-64, is moving in material, and Hugh Updike & Sons' No. 2, SW NE NE. Section 14-46-64, is rigging up. James McCullough's No. 2 Logan McCullough, NE NE, Section 23-46-64, was unable to recover tools and skidded the rig to start from the surface. It was below 1,400 feet. Curtiss & Straitiff's No. 3 Updike, SW SE NE, Section 14-46-64, is running casing on top of the sand, and Tom Don's No. 4, CNL NW SE, Section 20-46-63, failed to pick up anything upon drilling deeper and is plugging back to sand at 1,146-51 feet. Henderson, Garbereck and others' No. 1 Bock, SW cor. Section 2-46-64, is fishing below 1,200 feet.

Carbon County

Hughes Royalty Co.'s No. 1, SE, Section 25-26-88, Mahoney Dome, which has been idle for nearly two years at a total depth of 3,515 feet with the tools at the bottom, is preparing to resume. After the tools are fished out it is the company's intention to drill deeper on the theory that the Sundance has not yet been reached in this hole. The location is less than half a mile from a producer in the Tensleep, completed a few months ago by the Producers & Refiners Corp. The Hughes well had 6,000,000 feet of gas in the Dakota at 2,780 feet and was a 5,000,000-foot gasser in the Morrison at 3,412 feet. At the present depth of 3,515 feet, it is making 1,500,000 feet of gas and around 100 bbls. of black oil of 27 gravity per day. Producers & Refiners Corp.'s No. 4, Section 7-26-89, Wertz Dome, which was rigged up to deepen from 3,386 feet, has not yet been able to make any new hole. The 1¼-inch tubing was run to clean hole and this was lost. Fishing for the tubing is in progress. The same company's No. 3, SE NW, Section 2-19-88, Hatfield, is bottomed at 4,168 feet with the 4½-inch at 4,107 feet and is underreaming at 4,133 feet.

Converse County

The Big Muddy Field, east of Casper, which has shown almost no drilling activity for several years, is to have another deep test in the Continental Oil Co.'s No. 50 Whiteside, NW SW SW, Section 9-33-76. It is a producer in the Wall Creek at a total depth of 3,207 feet and preparations are under way to deepen it. The Continental has two producers in the field in the Lakota, but so far as known no well has ever been drilled to the Sundance from which some big wells have been completed in Salt Creek. The Ohio Oil Co. has had a rotary rig standing for several years which was erected with the intention of drilling a deep test, but it never spudded. The Weisman Big Muddy Oil Co. is drilling a well in the field in its No. 1, SE SW SE, Section 6-33-76, which set the 8¼-inch casing at 1,981 feet, where it has a show of oil and gas in the top of a stray sand that is found in parts of the field.

Fremont County

The Illinois Pipe Line Co. is running 10,000 bbls. of accumulated storage from the Pilot Butte Field to Riverton for shipment in tank cars to the Midwest refinery at Casper. Delta Oil Co.'s No. 1 Enos, Section 27-3n-1w, Pilot Butte, is a small well at 998 feet, bailing about 4 bbls. per day. It had a show of oil and a little gas at 550 feet. Kinney-Coastal Oil Co.'s No. 1 Dykeman, SE SW, Section 22-3n-1w, the Pilot Butte deep test, is coring in very hard sand at 3,847 feet. At 3,835 feet there was a thin streak of softer formation that showed saturation. Producers & Refiners' No. 2, SE NW, Section 33-34-92, Muskrat Dome, is shut down at 4,075 feet to repair boilers. The discovery well, 1½ miles to the southeast, had the big gas in the Frontier at 4,300 feet. Texas Production Co.'s No. 1-A State, SW SW, Section 36-34-95, Alkali Butte, is shut down for materials at 4,472 feet. Producers & Refiners' No. 10, NW cor., Section 14-32-95, Sand Draw, is coring at 3,475 feet. Apparently the blowout of gas has been killed. The new gas was below the Frontier.

Lincoln County

Wyoming Production Co.'s No. 1, Section 14-24-113, Fontennelle Dome, is spudding. Midwest Refining Co.'s No. 1 Larcher, SE SE, Section 25-37-117, Little Grays River, is drilling at 2,280 feet in red mud.

Natrona County

One completion was reported in Salt Creek in the Wyoming Associated's No. 25-SD-2, Section 26-40-79, made 123 bbls. natural in 16 hours and then was put on the pump. Total depth is 2,739 feet. It was completed in the second bench of the Sundance. Midwest Refining Co.'s No. 29-DT, NW, Section 35-40-79, Salt Creek, is drilling at 5,224 feet in the Deadwood formation and is flowing around 600 bbls. of water per day from sand. The temperature of the water is 128 degrees. The Deadwood is the last formation to be tested in this well, which is to go to the granite. Summit Oil Co.'s No. 1, NW NW, Section 21-33-80, North Platte, 5 miles west of Casper, is reaming at 500 feet after being held up for nearly a year on account of permit status. It is to be a 3,200-foot test. Wind River Oil & Gas Co.'s No. 1 DeLong, NE SE, Section 9-38-78, west of Teapot, has recovered underreamer lug at a total depth of 3,157 feet and is lowering casing to shut off water in the first Wall Creek. The Schwart Syndicate, which was formed to assemble acreage on the Powder River structure, has formed the Cuyler Oil Co. to drill the test on the SW, Section 24-36-85, and is spudding. The first Wall Creek sand is expected at 950 feet and all possible horizons are expected within 4,600 feet. The company has 5,300 acres in the block. The well is known as No. 1 Ogden and was spotted by C. T. Lupton. Some gas was found in the Frontier in former tests, but none was drilled to the Dakota. The Chicago Oil Co.'s No. 3, SW, Section 1-33-83, Poison Spider, is fishing at 3,565 feet, 317 feet in the Deadwood formation.

Park County

Resolute Oil Co.'s No. 1, SW NE, Section 17-57-101, Badger Basin, is drilling at 6,325 feet. Midwest Refining Co.'s No. 31 Frannie Oil, SW NE, Section 25-58-98, Frannie Dome, is drilling at 2,860 feet in red sandy shale, with the Madison as the objective, and its No. 31 Rosenberg, SW SE, Section 24-58-98, is drilling at 2,245 feet in gray sandy shale. California Exploration Co.'s No. 2, NW NE, Section 14-48-102, Pitchfork, is drilling at 3,863 feet. Continental Oil Co.'s No. 26-Elk-2, SE NE, Section 24-58-100, Elk Basin, is drilling at 2,205 feet. Texas Production Co.'s No. 1 Freeman, NW SE, Section 30-51-100, Oregon Basin, is drilling at 3,577 feet.

Big Horn County

Ohio Oil Co.'s No. 1 Easton, NW NW, Section 35-56-97, Garland Dome, is standing with the 7⅝-inch cemented at 3,887 feet, and its No. 1 Pryde, Section 25-56-97, Byron Dome, is drilling at 1,340 feet. Westland Oil, Inc.'s No. 1, NE SE, Section 33-55-95, Alkali Dome, is preparing to set the 15½-inch at 510 feet after being idle since last winter. The Amsden is expected at 2,800 feet.

Hot Springs County

Ohio Oil Co.'s No. 1 Smith, SE NE, Section 9-46-99, Walker Dome, is standing at 4,403 feet, waiting for rotary, and the Midwest Refining Co.'s No. 8 Weeks, NW SE, Section 6-44-98, Wagonhound, is bottomed at 2,820 feet and cleaning out at 2,775 feet. Gebo Consolidated Oil Co.'s No. 1, SW cor. Section 23-44-95, Gebo Dome, is drilling at 1,416 feet on top of the second Wall Creek with some gas showing.

Rocky Mountain Production

Daily average pipe line runs from the various pools in the Rocky Mountain area for the week ending August 23:

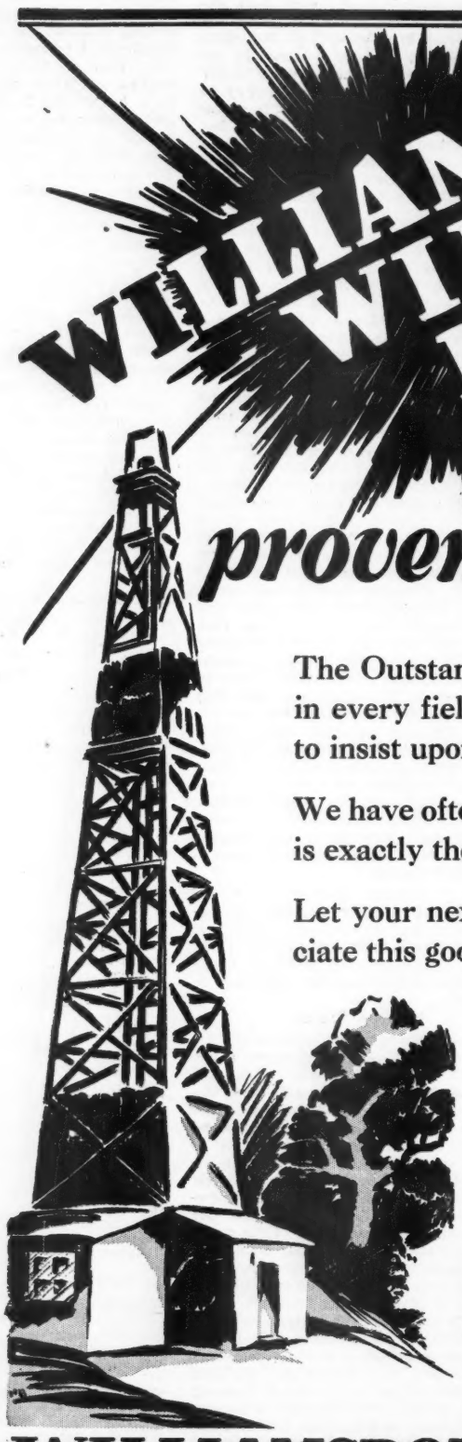
WYOMING	
Salt Creek	29,760
Frannie	120
Big Muddy	2,010
Oregon Basin	3,000
Dutton	120
Elk Basin	780
Byron	10
Warm Springs	100
Lovell	20
Ferris	40
Grass Creek	2,100
Hamilton	970
LaBarge	1,830
Lance Creek	120
Lost Soldier	3,360
Osage	1,390
Poison Spider	260
Rock River	2,120
Simpson Ridge	50
Teapot Dome	20
Dallas-Derby	230
Hudson	280
South Casper Creek	800
Cody	....
Total	49,490
MONTANA	
Cat Creek	1,140
Kevin-Sunburst	5,850
Pondera	2,420
Lake Basin	50
Border	480
Total	9,940
COLORADO	
Moffat	1,063
Fort Collins	1,284
Florence	422
Iles	1,122
Tow Creek	362
Boulder	25
Rangley	50
Total	4,328
NEW MEXICO	
Hogback	480
Rattlesnake	1,271
Table Mesa	141
Artesia	696
Cap Rock (Maljamar)	785
Jal	1,407
Hobbs High	40,773
Lea City	5,394
Miscellaneous (Lea County)	315
Getty	380
Total	51,645
Grand total	115,403
Week ending August 16	103,244
Difference	12,159

Sweetwater County

Hidden Treasure Oil Co.'s No. 1, SW cor. Section 32-21-103, North Baxter Basin, is resuming at 2,680 feet after being idle for the past six weeks. It had some gas with water in the Frontier and is preparing to lower casing for a formation shutoff. Mountain Fuel Supply Co.'s No. 1 Hay, NE cor. Section 26-17-104, South Baxter, reported a comple-

WILLIAMSPORT WIRE LINES

proven in every field



The Outstanding achievements of Williamsport lines in every field should be an incentive to every driller to insist upon their use.

We have often said a good driller plus a good wire line is exactly the right pair to draw to.

Let your next line be Williamsport and you'll appreciate this good advice, even if it does come from us.

WILLIAMSPORT WIRE ROPE COMPANY

Main Office and Works: Williamsport, Pa.

General Sales Offices: 122 S. Michigan Ave., Chicago, Ill.

Oil Country Sales Offices:

Williamsport Bldg., Fourth and Midland Valley Tracks, Tulsa, Okla.
1516 Chestnut Street, Houston, Texas

Our Own Warehouses:

Ardmore, Okla.; Arkansas City, Kan.; Blackwell, Okla.; Borger, Texas; Casper, Wyo.; Electra, Texas; Houston, Texas; Hobbs, N. Mex.; Lewistown, Mont.; Maud, Okla.; Oklahoma City, Okla.; Odessa, Texas; Pampa, Texas; Seminole, Okla.; Shidler, Oklahoma; Shreveport, La.; San Antonio, Texas; Tulsa, Okla.; Wink, Texas; Wichita Falls, Texas.

Distributed by the Bridgeport Machine Company, Wichita, Kansas, and all of their Mid-Continent Branches.

The Largest Exclusive Wire Rope Plant in America

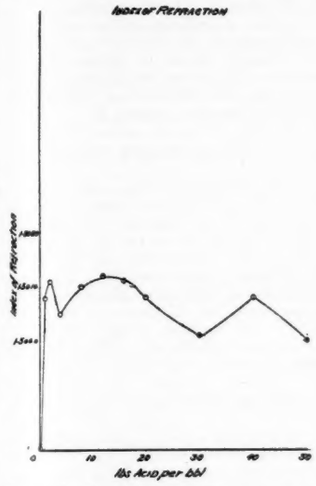
WILLIAMSPORT WIRE ROPE CO.

tion last week at 3,500 feet with a flow of 4,000,000 feet of gas, was drilled a little deeper and gas increased to 15,000,000 feet. Same company's No. 1 Cappers, SW NE, Section 2-19-104, North Baxter Basin, is running 10-inch to 3,200 feet. It has been idle at this depth since last February. Same company's No. 2 Union Pacific, Section 13-16-104, South Baxter Basin, is a cellar, and its No. 2 State, Section 16-16-104, is standing with the 6⅝-inch cemented at 2,170 feet. Its No. 1 Union Pacific, NW NE, Section 13-19-104, is testing a gas sand in the Morrison at 3,157 feet, which is showing several million feet of gas.

STUDYING EFFECT OF VARYING ACID TREATS

(Continued from Page 46)

and ash. The accompanying table gives the results of these tests. Curves were

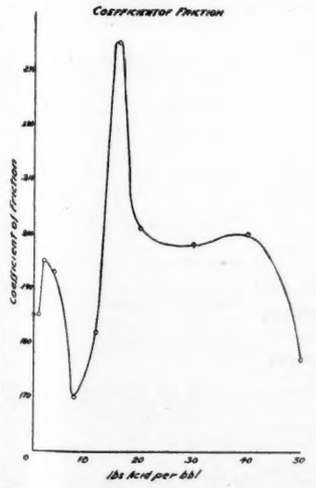


Curve showing effect of various amounts of acid on index of refraction.

plotted for all of these tests against the pounds of acid used.

Discussion of Results

A study of the various curves show marked peculiarities in all of the treats up to 4 pounds per barrel. This is believed to be due to the formation of oil soluble polymers and neutral esters as there are indications of vigorous chemical

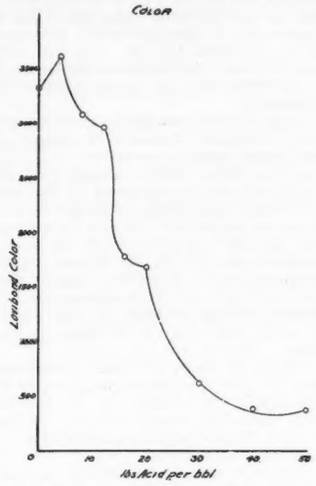


Curve showing effect of varying the amount of acid on the coefficient of friction.

action. As the quantity of acid is increased, these polymerized products are removed more completely.

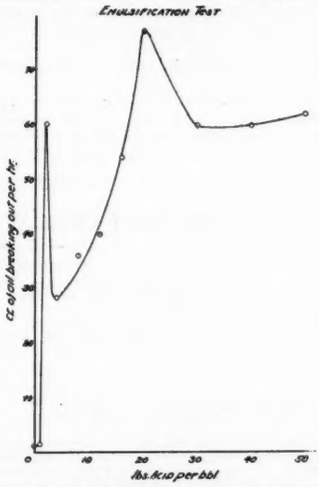
The viscosity curve decreases steadily after passing the pound treat as it was expected. This differs from Thornton, Neighbors and Keith's work on napthenic base oil.

The color curve is also as expected. As the amount of acid increases the color



Curve showing effect of various amounts of acid on color.

of the oil decreases. There are one or two slight breaks in the curve, which upon comparison with other curves indicates some irregularity in either treating, settling or washing. There is a decided break at the 4-pound treat which carries out the theory stated above. The gravity increases steadily as was to be expected.

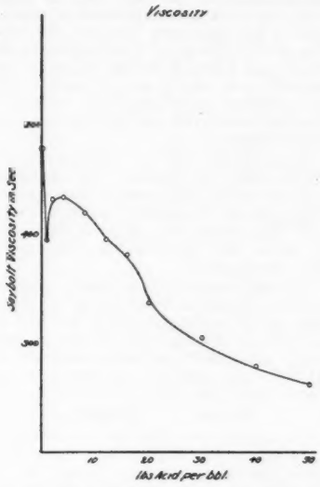


Curve showing effect of various amounts of acid on emulsion test.

As the amount of acid is increased the heavier and more complex compounds are removed.

There are two distinct breaks in the emulsification curve, one occurring at the 2-pound treat and another at the 20-pound treat. The maximum at these two points indicates that small amounts of naphthenic and sulphonic acids are present in the oil. At the low points, such as at the 4-pound treat, there are compounds of a nature showing strong tendency to emulsify.

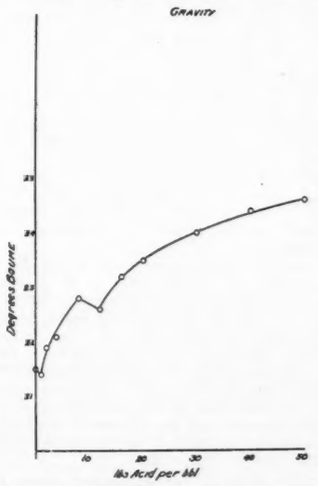
There are some marked variations in the coefficient of friction curve.[5] It reaches a minimum at the 8-pound treat, from which point it rises to a maximum value and then drops off to about a mean average until treated with 50 pounds, where it takes another decided drop, indicating that with large amounts of acid considerable amount of oxidation takes place. An explanation of the high points is that a maximum of the unsaturated and polar compounds have been removed. The low point suggests the forming of some polar compounds at this point. The wetting power of polar compounds and



Curve showing effect of various amounts of acid on viscosity of oil.

unsaturates is high, while that of saturated compounds is low, thus a normal treat would have a high friction coefficient, while excessive amount of acid would yield a lower value due to oxidation products or sulphonation products.

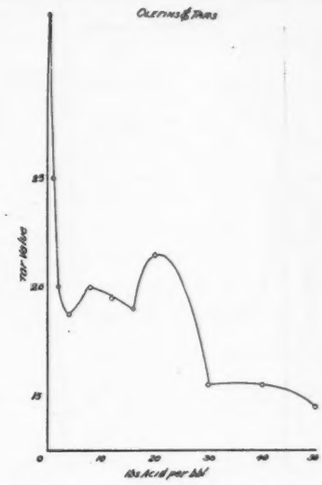
The paraffin series has the lowest surface tension with increasing values for the naphthenes, aromatics and unsaturated hydrocarbons. As shown by our curve, a straight line was obtained or, in other words, the surface tension did not change. This is probably due to the



Curve showing effect of various amounts of acid on gravity.

presence of a high proportion of saturated compounds with very small amounts of unsaturates.

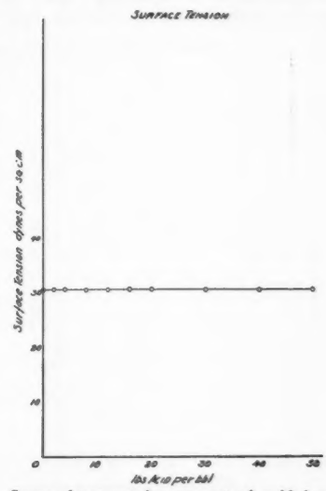
The interfacial tension is very important as it is a measure of the tendency of an oil to penetrate between two surfaces and maintain a stable film producing good lubrication.[6] It also measures the tendency of an oil to emulsify. An oil with a high interfacial tension will emulsify readily. This can be seen by comparing the interfacial curve with the emulsification curve. This shows that at the 4-pound treat there is a high inter-



Curve showing effect of various amounts of acid on olefin content.

facial tension and that it takes longer to break out than at any other point.

The olefins and tars drop to a minimum at 4 pounds. The line rises slightly here, dropping again at 16 pounds, where it again rises sharply, then drops away to a fairly constant value. These slight irregularities between 4 and 20 pounds may be due to experimental errors. The



Curve shows varying amount of acid has no effect on surface tension.

high point is probably due to the formation of oil soluble polymers which upon an increase of acid are cut out.

The Conradson carbon value decreases steadily as was to be expected. There was a slight rise at the 16-pound treat. There is a slight rise at the highest treat which is due more than likely to oxidation or the formation of sulphur-bearing compounds.

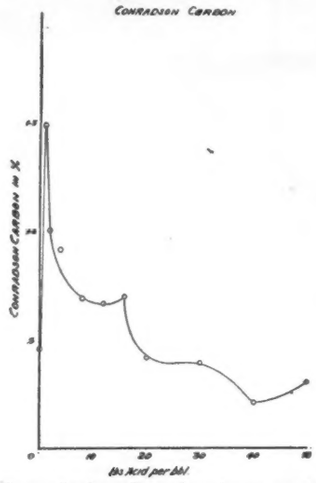
The index of refraction was plotted, but this shows very little because of the small variation in values. The flash and firepoints were not plotted as the values did not seem to take any definite trends.

Throughout all of these tests it appears that there is one critical point. This occurs at the 20-pound treat. It is thought

DATA ON TREATED LUBRICATING OILS

Pounds acid/bbl.	A.P.I. gr. 60°	Index of refraction	Lovibond color series (500)	Saybolt viscosity 100° F.	Flash ° F.	Fire	Olefins and tars %	Coeff. friction	Con. car. %	Surface tension	Emulsion cc./hr.	Interfacial tension	Ash	Ref. loss %
None	21.5	1.4839	3328	477.3	421	485	36	.1858	.414	53.5	1.0	61.74	0	14.0
1	21.4	1.5008	.....	396.0	425	480	25	.1850	1.49	53.5	1.5	60.68	0	15.0
2	21.9	1.5011	.....	432.0	420	482	20	.1950	1.02	53.5	60	63.88	0	9.5
4	22.1	1.5005	3628	435	420	475	17.5	.1930	.92	53.5	28.5	60.68	0	18.0
8	22.8	1.5010	3088	420	418	480	20	.1760	.69	53.5	36	49.87	0	19.0
12	22.6	1.5012	2976	396	420	476	19	.1820	.67	53.5	40	49.87	0	20.0
16	23.2	1.5011	1776	382	417	482	18	.2350	.70	53.5	54	50.29	.04	16.0
20	23.5	1.5008	1680	337	425	480	23	.2010	.42	53.5	77	55.38	0	17.0
30	24.0	1.5010	624	306	420	479	16	.1980	.39	53.5	60	54.18	0	17.0
40	24.4	1.5008	384	279	417	481	16	.2000	.21	53.5	60	48.88	0	26.0
50	24.6	1.5000	376	261	415	475	14	.1777	.30	53.5	62	43.88	0	21.0

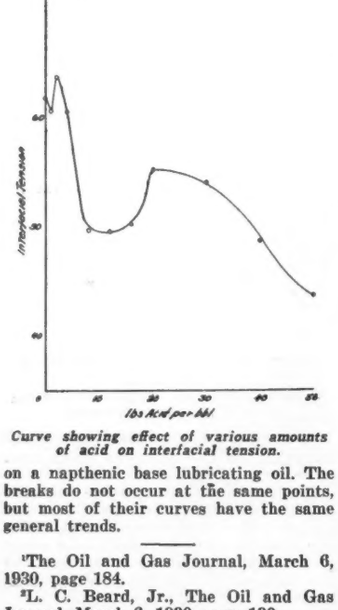
that up to this point the quantity of acid is just sufficient to form some oil soluble polymers and esters, and at 20 pounds the quantity has been increased enough to convert all of these substances into other compounds soluble in the acid or the alkaline wash. Beyond this point



Curve showing effect of various amounts of acid on Conradson carbon content.

secondary reactions set in, such as oxidation and sulphonation. Sixteen pounds per barrel seems to be the best treat to give this oil. The viscosity, color and gravity is satisfactory. It has a low interfacial tension, the coefficient of friction is about average, the Conradson carbon and tar values are low, and it has a good emulsification test.

These results parallel very closely the results obtained by McBurnett and Frier



Curve showing effect of various amounts of acid on interfacial tension.

on a napthenic base lubricating oil. The breaks do not occur at the same points, but most of their curves have the same general trends.

---

[1]The Oil and Gas Journal, March 6, 1930, page 184.

[2]L. C. Beard, Jr., The Oil and Gas Journal, March 6, 1930, page 130.

[3]Gurwitsch Petroleum Technology, pages 320-322.

[4]Brooks: Nonbenzoid Hydrocarbons.

[5]Using olive oil as a basis for comparison gave a static coefficient of friction of .148. See Archbutt and Deeley: Lubrication and Lubricants.

[6]For interfacial tension see work of Langmier and Hawkins.

[7]J.I.E.C. 14, 626 and 682.

OIL SHOW GROUNDS GET FINISHING TOUCH

(Continued from Page 40)

main turnstiles at the western end of the grounds.

There is 1,365 feet of new fencing around the grounds, 930 feet of sturdy wire fencing having been built along the north boundary and 435 feet along the east boundary. A retaining wall has been built along a gully near the eastern limit of the exposition property, beyond the new fencing.

Under the Texas Building a large storage room, virtually fireproof, has been constructed for the proper keeping of all kinds of material used on the grounds, including electrical fixtures, tools, wiring, etc. This will be in charge of a warehouseman, who will keep a strict account of all material placed in storage and of all taken out. No adequate provision for this great quantity of equipment was afforded before this year and it had to be stored in various parts of the different buildings, with consequent loss of time and danger of loss of equipment itself.

A paint shop is another innovation. Here signs, etc., desired by exhibitors will be made by a contracting painter, to whom this concession has been granted. The prices for all work done will be under the supervision of the exposition management.

As was the case last year a part of the superintendent's building at the north end of the main street will be used as a first-aid station, with nurses in constant attendance and an ambulance at hand in the event of any illness or accident requiring hospital treatment.

Ancient Oil Field Relics

As visitors pass through the main entrance from East Twenty-first Street this year they will note one change almost at once, for at the immediate left of the turnstiles is the replica of the Drake well, which formerly was farther down the street. This feature is now in its permanent position. Along with it will be shown this year not only some of the early drilling implements and the springpole which served as power unit for drilling wells in the first oil fields, but an old time steam engine and boiler.

The boiler is of the pioneer portable type, which was moved from place to place on wheels with wooden spokes, which may be seen in the accompanying illustration. The picture shows too the openings in the front end of the boiler, the upper one for introduction of the fuel, either coal or wood, and the lower one for removal of ashes with a scraper. At the other end the flues were cleaned of soot by means of a long iron rod, one end bent into a handle and the other provided with an "expander" which brought out its cloud of soot with each insertion into a flue. This old boiler was owned by the Cornplanter Oil & Refining Co., of Warren, Pa., a half century ago and it was sent by that company to its property in the Chelsea, Okla,. field, where the company had holdings.

Inside the engine house which is a part of the Drake exhibit is another ancient oil country exhibit, one of the engines widely used in the early Pennsylvania oil fields and sent into other fields developed later. A plate on the engine bears the lettering, "Climax No. 3. Patented Feb. 12, 1878." The two relics of pioneer days in the oil country were obtained through the efforts of Arch W. Leonard, chairman of the executive committee of the exposition.

The demand for exhibition space is said to have been in excess of the room available even after all the additions included in the 1930 expansion program had been constructed, insuring a show which in number and diversity of displays will surpass all those of preceding years. This fact in connection with improvements which will add immeasurably to the comfort and convenience of visitors is believed to make certain that the exposition of 1930 will be a distinct success from every point of view.

Committee Chairmen Named

The complete list of committee chairmen for the 1930 oil show have been announced as follows:

Barney E. Horrigan, independent oil operator, was renamed to head the old timers' committee. This group will give special attention this year to a projected arrangement which will use surplus funds of the oil show for the benefit of veterans of the industry who are facing misfortune.

W. A. Schlueter, president of the Refinery Supply Co., leads the scientic and technical committee. He has appointed subchairmen to give adequate handling to the subjects under production, refining, natural gasoline manufacture, natural gas and pipe line transportation.

R. C. Sharp, president of the Independent Oil & Gas Co., is general chairman of the reception committee. He is assisted by J. Monte Hayner, president of the Phantom Oil Co., who will take care of local transportation problems in co-operation with the junior chamber of commerce.

Ralph Talbot, theater chain owner, has been appointed chairman in charge of the formal opening ceremony.

A. F. Winn, traffic manager of the Skelly Oil Co., is chairman of the special trains committee. This group performs an important function in arranging for rail caravans from 12 major gathering points. E. W. Wilson, traffic manager for the Frick-Reid Supply Co., has a special role in the passenger and freight division in which he has proved of much value to the oil show in the past.

Harry B. Gale, assistant vice president of the Exchange National Bank, again will have charge of the housing and valicating committee which makes possible the comfortable quartering of the thousands of visitors.

Frank S. Gray, head of the land department of the Prairie Oil & Gas Co., is chairman in charge of the annual exposition golf tournament. There were 600 entries in the 1929 tournament. It is expected that the number will be raised to 800 this year.

Albert Galloway, president of the Anderson Printing Co., has been reappointed to take charge of the special music for the oil show. He will arrange the Sunday sacred program.

Don J. Wallace, director of the Safety Division of the Mid-Continent Oil & Gas Association, will continue as chairman of the committee in charge of the safety work and demonstrations.

George B. Oberfell, president of the Philfuels Co., Bartlesville, Okla., will be in charge of the open forum held in connection with the scientic and technical department of the exposition. At the forum sessions it is planned to have experts in the various phases of the industry in charge, so engineers are urged to send in the problems they wish discussed. These will be suitably grouped and placed on a date schedule.

HOWARD H. HERPST DEAD

Howard H. Herpst, age 46, of Tulsa, died in a San Antonio hotel of heart disease Thursday night, August 21. Mr. Herpst, an appraisal engineer, left Tulsa the previous Tuesday to look over properties in the San Antonio district. He was head of the land department of the Chestnut & Smith Corp. and vice president and director of the Tul-Tex Oil Co. He had had a long experience in the oil business both in the eastern and western fields and was frequently engaged by banks and oil companies to appraise oil and gas properties. Mr. Herpst was born in Oil City, Pa. He had resided in Tulsa 15 years. Surviving are his widow and one daughter; his father, C. T. Herpst, and brother, Ralph B. Herpst, of Tulsa and another brother, C. H. Herpst of Sedalia, Mo. The funeral was held in Titusville, Pa., Monday, August 25.

NEXT OSAGE SALE

The Osage Council has selected 25,000 acres of lands for oil leases in different parts of Osage County and submitted the list to the Secretary of the Interior with the recommendation the sale be held on Monday, September 29. If the list is approved the Indian Agency will offer these lands for oil leases to the highest bidder at auction, under the regular terms and conditions. The last Osage lease sale was held April 9, 1930.

IN MEMORY OF T. B. SLICK

Resolutions eulogizing the late Thomas B. Slick, and expressing the deep sorrow occasioned by the death of the famous oil producer were passed last week by oil producers in the Oklahoma City Field and by Oklahoma oil producers generally, at meetings held in connection with proration and curtailment of production.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 69)

H. F. Wurtz' No. 1 E. A. Ibbetson et al, 330 ft. from N and E lines of NW, Sec. 16, Blk. 46, Twp. 3s, G.M.M.Br.&A. Sur. ..... Shut down 2,375 ft.

T. P. Coal & Oil Co.'s No. 1 McKenzie, 1,650 ft. from S and 330 ft. from E of Sec. 282, Blk. 45, Twp. 2s, T.&P. Sur. ..... Shut down 3,870 ft.; shot 210 qts. 3,720-75 ft.; filled 1,000 ft.; swabbed 45 bbls. in 7 hrs.; swabbing dry.

R. R. Penn et al's No. 1 Goodman et al, 2,640 ft. N and 330 ft. W of SE cor. Sec. 27, Blk. 44, T.&P.R.R. Sur... Shut down 4,398 ft.; show oil 4,043 and 4,120-30 ft.

Simms Oil Co. et al's No. 4 University, 1,650 ft. from S and 1,320 ft. from E of Sec. 1, Blk. 35 ..... Location.

Skelly Oil Co. and Republic Prod. Co.'s No. 1 McKenzie, 990 ft. from S line and 330 ft. from E line of Sec. 28, Blk. 45, Twp. 2s, T.&P. Sur. ..... Shut down 3,750 ft.; flowed 110 bbls. on July 12; shut in for storage.

Skelly Oil Co. et al's No. 1-C University, 2,310 ft. from N and W of Sec. 2, Blk. 35 ..... Drlg. 3,160 ft.

Sunray Oil Co. et al's No. 1 Jones, 2,330 ft. from N and 440 ft. from E of Sec. 6, Blk. 44, Twp. 3s, T.&P. Sur... Shut down 3,823 ft.; waiting on pipe line connection.

EL PASO COUNTY

Lane-The Texas Company's No. 1 Malone, 2,110 ft. from SW and NW of Section 46, J. M. Day Sur. ..... Shut down 3,089 ft.

FISHER COUNTY

Cranfill & Reynolds' No. 2 Flannigan, 330 ft. from S and E of W half of Sec. 200, B.B.B.&C.R.R. Sur. .... 2,500 ft. oil in hole from 3,090-9[illegible] ft.; shut down 3,130 ft.; plugged back to 3,124 ft.; to test.

Cranfill & Reynolds' No. 3 Willingham, 330 ft. from S and E of Sec. 207, B.B.B.&C. Sur. ..... Rigging up.

The Texas Company's No. 1-A Teagarden, 150 ft. from S and 420 ft. from E of Sec. 8, Richardson Sur. ..... Total depth 3,225 ft.; plugged back to 3,193 ft. and shot with 40 qts. from 3,177-88 ft.; no results.

GARZA COUNTY

Pandem Oil Corp.'s No. 1 Justice, 330 ft. from S and W of Sec. 12, Blk. 4, H.&G.N. Sur. ..... Spudded and shut down.

Richard's No. 1 Stoker, 330 ft. from N and W Sec. 2, Blk. 2, G.H.&H. Sur. ..... Cleaning out 3,044 ft.

GLASSCOCK COUNTY

Timberlake & Snyder's No. 1 Meek, 2,310 ft. W and 1,600 ft. N of SE cor. Sec. 7, Blk. 34, Twp. 3s, T.&P. Sur... Total depth 2,956 ft.; fishing casing.

World Oil Co.'s No. 3-C McDowell, 2,310 ft. from S and W of NE cor. Sec. 21, Blk. 34, Twp. 2s, T.&P. Sur. .. Shut down 680 ft.; running 15½-in. casing.

HOWARD COUNTY

Cosden Oil Co.'s No. 6 Roberts-A, 200 ft. N and E of SW cor. Sec. 129, Blk. 29, W.&N.W.R.R. Sur. ..... Sulphur water 1,433-46 ft.; shut down 1,456 ft.

Greene O. & R. Co. et al's No. 1 Denman, 330 ft. from N and W of E half of NE Sec. 14, Blk. 30, Twp. 1s, T.&P. Sur. ..... Drlg. 345 ft.

Merriwether's No. 1 Smith, 150 ft. from S, 2,490 ft. from W Sec. 46, Blk. 33 ..... 2,000 ft. water in hole; shut down 3,270 ft.

Moody Oil Corp.'s No. 23-B Roberts, 990 ft. from N and W of Sec. 137, Blk. 29 ..... Shut down 261 ft.

HUDSPETH COUNTY

Theison's No. 1 University, 2,050 ft. from S and 2,225 ft. from E of Sec. 17, Blk. E ..... Spudded.

Western States Oil Co.'s No. 1 Gardner & Moseley, NE NW, Sec. 12, Blk. 18 ..... Fishing 3,155 ft.

Williams & Williams Drlg. Co.'s No. 1 Noelke, 200 ft. from N and 1,020 ft. from E of Sec. 8, City of San Antonio Sur. ..... Machine.

IRION COUNTY

Bristow et al's No. 1 Nutt, 180 ft. from NE of SW of NW Sec. 6, Gonzales Co. School Lands ..... Drlg. 450 ft.

Crawford Oil Co.'s No. 1 Williams, 450 ft. from N, 150 ft. from W, Subd. 8 ..... Shut down 1,105 ft.

Cromwell et al's No. 1 Tankersley, 150 ft. from N and 210 ft. from W of E half of Sec. 1,330, G.C.&S.F. Sur... Drlg. 1,410 ft.

Straughn & Texannati Oil Co.'s No. 1 Tankersley, 150 ft. from S and 750 ft. from W of Sec. 4, Gonzales Co. School Lands ..... Location.

P. H. Williams' No. 1 Ash, C of Sec. 20, Washington County ..... Show oil 7,931 ft.; shut down 8,890 ft.; may drill deeper.

Webb et al's No. 1 Nutt, 150 ft. from S and 116 ft. from W of Blk. 5, Gonzales Co. School Land ..... Location.

JONES COUNTY

Gibson & Johnson's No. 1 Hudspeth, 1,125 ft. from N and 483 ft. from E of Sec. 22, Edward Miles Sur..... 600 ft. oil and water in hole; top pay 2,542 ft.; underreaming 5 3/16-in. casing; total depth 2,806 ft.

Pope et al's No. 1 Swann, 2,023 ft. from S and 400 ft. from E of I. Miley Sur. No. 281 ..... Spudded and shut down.

LOVING COUNTY

Dixie and Phillips Pet.'s No. 1 Johnson, 1,320 ft. from N and E of Sec. 38, Blk. 54, Twp. 2s, T.&P. Sur. .... Shut down 4,712 ft.; plugged back to 4,435 ft.; shot 180 qts.

Eppenauer et al's No. 1 Allen, 2,310 ft. from NE and NW lines, Sec. 90, Blk. 1, W.&N.W. Sur. ..... Spudded and shut down.

Lockhart & Co.'s No. 3 Bowen & Wells, 330 ft. from NE and SE of Sec. 92, Blk. 1, W.&N.W. Sur. ..... Shut down 3,383 ft.

Hadlock et al's No. 2 Russell, 1,650 ft. SW of NE line, 2,310 ft. NW of SE line, Sec. 80, Blk. 1, W.&N.W. R.R. Sur. ..... Total depth 4,360 ft.; made 47 bbls. head after standing 6 days; to shoot.

Henshaw et al's No. 1 Reagan & McElvain, 990 ft. from SE and 330 ft. from SW Sec. 84, Blk. 1, W.&N.W. Sur. ..... Drlg. 1,800 ft.

Lockhart & Co.'s No. 2 fee, 676 ft. S, 330 ft. W, Sec. 91, Blk. 1, W.&N.W. Sur. ..... Spudded 140 ft.; shut down.

Lockhart & Co.'s No. 3 Hubbard, 1,650 ft. from NE line, 330 ft. NW line of Sec. 83, Blk. 33, H.&T.C.R.R. Sur... Rigged up and shut down.

Lockhart's No. 2 Wheat & Ramsey, 440 ft. from NE and 880 ft. from NW, Sec. 83, Blk. 1, W.&N.W. Sur... Drlg. 4,050 ft.

Miller et al's No. 1 Chapman, 225 ft. from NW and 285 ft. from SW line, Sec. 71, Blk. 1, W.&N.W. Sur. ..... Drlg. 2,500 ft.

Rush et al's No. 1 Wheat, 1,650 ft. from NW and 330 ft. from SW of Sec. 85, Blk. 1, W.&N.W. Sur. ..... Drlg. 3,015 ft.

California Co.'s No. 2 Reagan & McElvain, 440 ft. from NW and SW Sec. 84, Blk. 1, W.&N.W. Sur. ..... Drlg. 3,620 ft.

California Co.'s No. 4 Reagan & McElvain, 330 ft. from NE and 1,650 ft. from NW, Sec. 84, Blk. 1, W.&N.W... Drlg. 2,200 ft.

Lee O. White et al's No. 1 Russell et al, 320 ft. from NW and 2,200 ft. from SW Sec. 80, Blk. 1, W.&N.W... Drlg. 2,405 ft.

LYNN COUNTY

George McCamey's No. 1 Edwards, 165 ft. N and E, Sec. 5, Blk. 2, L.S.&W. Sur. ..... Shut down 5,280 ft.

MENARD COUNTY

Barnett et al's No. 3 Callan City Co., 300 ft. from S and W Sec. 1, B.S.&F. Sur. ..... Show oil 709-11 ft.; shut down 1,270 ft.

Barnett et al's No. 4 Callan City Co., 1,200 ft. from S and 2,200 ft. from W, Sec. 1, B.S.&F. ..... Machine.

Panhandle Ref. Co.'s No. 2 Eckhart, 1,820 ft. from W and 1,320 ft. from S of Sec. 10, Blk. 2, T.W.N.G. Sur. ..... 500,000 ft. gas with show oil 2,945 ft.; shut down 3,200 ft.; to plug back to 2,955 ft. to save gas.

Priest's No. 1 Sorrel, 1,000 ft. from E and 200 ft. from S cor. Sec. 132, E.L.R.R. Sur. ..... Fishing tools 2,415 ft.

MITCHELL COUNTY

Morrison et al's No. 2 Morrison, 2,390 ft. from N and 660 ft. from E of Sec. 31, Blk. 28, Twp. 1n, T.&P. R.R. Sur. ..... Total depth 3,112 ft.; top pay 3,038 ft.; 1,000 ft. oil in hole; swabbing 40 bbls. in 24 hrs.

Morrison et al's No. 1 Poe et al, 660 ft. S and 1,980 ft. W parallel to section lines of NE cor. Sec. 8, Blk. 27, T.&P. Sur. ..... Spudded 10 ft. and shut down.

PECOS COUNTY

Barnes et al's No. 1 Sanford, 160 ft. from NW and 157 ft. from SW of Sec. 55, Blk. 10, H.&G.N. Sur. ..... Drlg. 1,000 ft.

Curry & Eakin's No. 1 Pecos Valley Oil Co., 1,050 ft. from SE and 1,470 ft. from SW, Sec. 36, Blk. 3, H.&T.C. Sur. ..... Shut down 790 ft.

Dittman's No. 1 Jackson, 2,310 ft. from NE and 330 ft. from NW Sec. 28, Blk. 3, H.&T.C. ..... Location.

Dittman's No. 1 Eaton, 2,310 ft. from SW and NW Sec. 35, Blk. 3, H.&T.C. ..... Location.

Dittman's No. 2 Eaton, 990 ft. from SW and 330 ft. from SE Sec. 35, Blk. 3, H.&T.C. ..... Location.

Dittman's No. 1 Eaton, 330 ft. from NE and SE Sec. 37, Blk. 3, H.&T.C. ..... Location.

G. A. Henshaw, Jr., Inc.'s No. 1 University, 1,650 ft. from S and 990 ft. from E, Sec. 32, Blk. 16 ..... Shut down 1,575 ft.

Humble Oil & Ref. Co.'s No. 1 Kokernot, 1,320 ft. from N line and 1,467 ft. from W line of Sec. 227, Blk. 10, G.H.&S.A. Sur. ..... Drlg. 3,020 ft.

Humble Oil & Ref. Co.'s No. 1-B Thoman, 1,608 ft. from N and 4,062 ft. from E of Sec. 98, Blk. OW, G.C.&S.F. Sur. ..... Shut down 400 ft.

Independent O. & G. Co.'s No. 4 McDonald, 115 ft. from N and 2,485 ft. from E. Sec. 46, Blk. 12, H.&G.N. .... Drlg. 1,925 ft.

Magnolia Pet. Co.'s No. 1 Byrne, 2,490 ft. from SE and SW, Sec. 54, Blk. 10, H.&G.N. Sur. ..... Drlg. 615 ft.

McCurdy & Brown's No. 1 Tippett, 1,150 ft. from S McCurdy & Brown's No. 2 Tippett, 150 ft. from N and W of SE Sec. 40, Blk. 194, G.C.&S.F. ..... Location.

Messenger et al's No. 2 Byrne, 2,490 ft. from NE and SE of Sec. 54, Blk. 10, H.&G.N. Sur. ..... Shut down 1,367 ft.; top pay 1,364 ft.; flowing 93 bbls. daily.

Messenger et al's No. 1 Butz, 1,830 ft. from NW and 1,170 ft. from SW, Sec. 54, Blk. 10, H.&G.N. Sur. .... Shut down 740 ft.

J. R. Miller et al's No. 1 Bennett, 359 ft. W of CWL, Sec. 1, Blk. 119, G.C.&S.F. ..... Shut down 1,700 ft.

J. D. O'Mara's No. 1 Bennett, Sec. 593, 1,460 ft. from S, 150 ft. from E, G.C.&S.F. ..... Total depth 1,230 ft.; top pay 1,089 ft.; plugged back to 1,185 ft.; will drill deeper.

J. D. O'Mara's No. 1 Streety, C of Sec. 1, W. P. Howard Sur. ..... Underreaming 2,200 ft.

Oregon Oil Corp.'s No. 2 Yates, 150 ft. from S and W of Sec. 55, Blk. 1, I.&G.N. Sur. ..... Shut down 2,440 ft.

Perren Oil Co.'s No. 2 Eaton, C of E of W, Sec. 27, Blk. 3, H.&T.C. Sur. ..... Drlg. 1,560 ft.

Perren's No. 1 Jackson, 200 ft. from NW and SW of Sec. 28, Blk. 3, H.&T.C. Sur. ..... Shut down 1,610 ft.; show oil 1,560-66 ft.; shot 60 qts. 1,540-1,600 ft.; hole bridged.

Plymouth Oil Co.'s No. 1 Perry, 330 ft. from N and W Sec. 13, Blk. 194, G.C.&S.F. ..... Total depth 1,920 ft.; top pay 1,892 ft.; flowing 25 bbls. per day.

Plymouth Oil Co.'s No. 4 Perry, 300 ft. from N and 420 ft. from E, Sec. 14, Blk. 194, G.C.&S.F. Sur. ..... Cellar.

R. W. Porpus et al's No. 1 State Land, 330 ft. S and W lines of NE, Sec. 28, Blk. OW, T.C.R.R. Sur. ..... Spudded and shut down.

Pure Oil Co.'s No. 1 Harrison, 2,310 ft. from N and 330 ft. from W of Sec. 203, Blk. 3, T.&P. Sur. ..... Shut down 1,270 ft.

Riser & White's No. 1 Riser, 2,297 ft. from S and 997 ft. from E of Sec. 24, Blk. 12, H.&G.N. Sur. ..... Shut down 90 ft.

Sides & Cloyd's No. 2 Blackstone & Slaughter, C NW of Sec. 34, Blk. A-2, T.&C.R.R. Sur. ..... Drlg. 2,215 ft.

California Co.'s No. 1 Fromme, 330 ft. from NE and NW, Sec. 106, Blk. 10, H.&G.N. Sur. ..... Shut down 1,650 ft.

California Co. et al's No. 1 Thomas, 990 ft. from NW and SW, Sec. 31, Blk. 34, H.&T.C. Sur. ..... Location.

The Texas Company's No. 1 Wright, 660 ft. S and E of NW cor., Sec. 3, Blk. 131, T.&St.L. Sur. ..... Shut down 3,504 ft.

Warner's No. 1 Webb, 2,550 ft. from NW and 6,100 ft. from NE of Sec. 311, Abst. 756, C. McGinley Sur. .... Rigged up and shut down.

PRESIDIO COUNTY

L. C. Brite's No. 4 Brite, 271 ft. from N and 1,138 ft. from E lines of Sec. 245, Blk. 4 ..... Shut down 2,650 ft.

REAGAN COUNTY

Big Lake Oil Co.'s No. 4-C University, 1,120 ft. from N and 1,096 ft. from E of Sec. 1, Blk. 2 ..... Top pay 8,220 ft.; flowed 15 bbls. 24 hrs.; total depth 8,220 ft.

Big Lake Oil Co.'s No. 5-C University, 625 ft. from S and 250 ft. from W of Sec. 25, Blk. 9 ..... Drlg. 2,846 ft.

Texon O. & L. Co.'s No. 4-B University, 1,120 ft. from N and W of Sec. 36, Blk. 9 ..... Cellar.

REEVES COUNTY

H. T. Hansford's No. 1 Williams, 150 ft. from S and W Sec. 17, Blk. 6, H.&G.N. Sur. ..... Shut down 380 ft.

Black & Fink's No. 1 Brooks, 1,980 ft. N and 660 ft. W Sec. 16, Blk. 50 ..... Shut down 1,860 ft.; show oil 1,820 ft.; cleaning out after two shots; filled up 200 ft. with oil.

Salsbury & Gregory's No. 1 Young Bell, 1,170 ft. from N and 330 ft. from E of Sec. 7, Blk. 5, H.&G.N. ..... Shut down 370 ft.

Lee O. White et al's No. 1 Hershersor, 330 ft. from N and W lines of Sec. 5, Blk. 51, Twp. 10, T.&P. Sur. ... Shut down 4,415 ft.

California Co.'s No. 1 Kloh & Rumsey, 1,650 ft. from S and E of Sec. 13, Blk. 54, Twp. 4, T.&P. Sur. ..... Shut down 3,604 ft.

RUNNELS COUNTY

Dutton et al's No. 1 Dean, 5,475 ft. from NE and 1,048 ft. from NW in J. Heil Sur. No. 419 ..... Show oil 2,308-95 ft.; gas pocket 2,303 ft.

George W. Boyce's No. 1 Lang, 2,310 ft. N, 6,900 ft. E, Sec. 262 ..... Show oil 2,028 ft.; shut down 2,643 ft.

SCHLEICHER COUNTY

Delmar Oil Co.'s No. 1 O'Harrow, C of NW Sec. 56, Blk. 1, G.H.&S.A.R.R. Sur. ..... Drlg. 4,410 ft.

Interstate's No. 1 Whitten, 1,320 ft. from N and W, Sec. 35, Blk. LL, T.C.R.R. Sur. ..... Plugging back to shoot oil and gas show at 4,915-25 ft.; total depth 6,880 ft.

Teas & Gant's No. 1 Allison, 1,320 ft. N and E of SW cor. of Sec. 37, Blk. K, G.H.&S.A.R.R. Sur. ..... Drlg. 3,510 ft.

Wesner et al's No. 1 Nicks, 2,310 ft. from N and 2,362 ft. from E of Sec. 77, Blk. LL, T.C.R.R. Sur. ..... Shut down 3,501 ft.

Westyde et al's No. 1 Meador, 1,320 ft. from S and E of Sec. 661, G.C.&S.F. Sur. ..... Location.

George Wilson's No. 1 Page, Sec. 40, Blk. L, 1,290 ft. from N, 1,470 ft. from W, G.H.&S.A.R.R. Sur. ..... Fishing 4,912 ft.

SCURRY COUNTY

Byrd & Harmon's No. 1 Murphy, Jr., 320 ft. from N and E of Sec. 114, Blk. 97, H.&T.C. Sur. ..... Shut down 3,437 ft.; testing.

Camp Spring Oil & Ref. Co.'s No. 3 Guinn, 1,300 ft. from S, 300 ft. from E, Sec. 12, Blk. 3, H.&T.C.R.R. Sur. ..... Shut down 4,372 ft.

Camp Spring Oil Co.'s No. 1 Strayhorn, 330 ft. from S and 1,980 ft. from W of Sec. 154, Blk. 3, H.&G.N. Shut down 700 ft.

I. B. Mimms et al's No. 1 J. J. Koonsman, Sec. 216, Blk. 2, H.&T.C.R.R. Sur. ..... Spudded and shut down.

G. E. Dickman and R. B. Pender et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. ..... Shut down 4,925 ft.

Transcontinental Oil Co.'s No. 1 Peckham, 330 ft. from S and W of R. N. Miller Sur. ..... Drlg. 3,470 ft.

STERLING COUNTY

Beesley et al's No. 1 Brown, 2,940 ft. N and 300 ft. W of SW cor. Sec. 7, Blk. 22, H.&T.C., but in Sec. 16, Blk. 31, Twp. 4s, T.&P. ..... Location.

SUTTON COUNTY

Independent Oil & Gas Co.'s No. 1 Wilson, Sec. 30, Blk. A, 1,650 ft. from N, 2,310 ft. from W ..... Location.

TAYLOR COUNTY

Clark et al's No. 1 Kendall, 250 ft. from N and W of farm in Willis Avery Sur. ..... Fishing 2,080 ft.

Eastland Oil Co.'s No. 1 Hunter, 1,574 ft. from E and 3,418 ft. from S of William R. Ellis Sur. ..... Shut down 2,140 ft.

Gibson & Johnson's No. 1 Bingham, 330 ft. N and E of SW cor. their 270.8-acre tract, Sec. 31, Guadalupe County School Land ..... Shut down 2,444 ft.

John B. Jameson's No. 1 Webb, 1,170 ft. S and W of NE cor. Sec. 46, Lunatic Asylum Land ..... Show oil 4,917 ft.; shut down 6,078 ft.

Hucony Oil Co. et al's No. 1 Richie, C SE Sec. 10, Blk. A, S.P.R.R. Sur. ..... Drlg. 1,425 ft.

Sanger et al's No. 1 City of Abilene, 330 ft. from S and 1,400 ft. from E of Sec. 66, Blind Asylum Lands ..... Rigging up.

Sanger O. & R. Co.'s No. 1 Osborn, 330 ft. from SW of SE Sec. 68, Blind Asylum Lands ..... Rig.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW Sec. 155, Blk. D, M.-K.-T.R.R. Sur. ..... Shut down 2,180 ft.

Keck Pecos Trust Co.'s No. 1 Hamilton, C Sec. 6, Georgetown Ry. Sur. ..... Shut down 3,150 ft.

Miller Bros.' No. 1 Allison & Burke, C NW cor. Sec. 10, Blk. 176, T.&P. Sur. ..... Shut down 120 ft.

Mrs. J. B. McPhees' No. 1 Sam Belt, C Sec. 17, Blk. D-7, E.L.R.R. Sur. ..... Shut down 880 ft.; moved off machine.

Transcontinental Oil Co.'s No. 1 Goode, 2,152 ft. from E and 330 ft. from S, Sec. 26, Blk. 161, G.C.&S.F.R.R. Sur. ..... Shut down 5,229 ft.

Woodley & Jones' No. 1 Pankenham, C SE NW, Sec. 43, Blk. B-2, C.C.S.D.&N.G.R.R. Sur. ..... Shut down 640 ft.

TOM GREEN COUNTY

Belding & Dutton's No. 1 Nosworthy, 2,640 ft. from S and 587 ft. from E of John McNeese Sur. ..... Cleaning out 435 ft.

Cosden Oil Co.'s No. 1 William Anson, 2,310 ft. S, 330 ft. W of NE cor., Sec. 20, Blk. 24, H.T.C.R.R. Sur. ..... Location.

Ellis' No. 3 Lewis, 1,350 ft. S and 450 ft. E of SW cor. Jas. Webb Sur. 77, cut in Albert Black Sur. 75 ..... Shut down 1,101 ft.
Fitzgerald & Taliaferro's No. 1 Bennett, C SW Sec. 1,625, E. H. Dinger Sur. ..... Plugged back to 2,405 ft. to straighten hole; shut down 2,44- ft.

Mintex Oil Co.'s No. 1 Campbell Est., 446 ft. from S and 630 ft. from W of Sec. 180, Dist. No. 11, S.P.R.R. Sur. ..... Shut down 780 ft.
Phillips Pet. Corp.'s No. 1 Gulden, 1,250 ft. from N and 1,683 ft. W of Sec. 77, James Webb Sur. ..... Drlg. 3,275 ft.
E. W. Wiley et al's No. 1 Maier, 200 ft. from E, 110 ft. from N, Sec. 6, Blind Asylum Land ..... Show oil 418-20 ft.; total depth 632 ft.

UPTON COUNTY

Cordova Union Land Co.'s No. 1 fee, 330 ft. from S and E line of Sec. 1, Blk. 1, M.-K.-T.R.R. Sur. ..... Location.
Penn & Shell Pet. Corp.'s No. 1 Anderson, 1,320 ft. from S and E Sec. 37, Blk. Y, C.C.S.D.&R.G.N. ..... Location.

VAL VERDE COUNTY

Atlantic Oil Prod. Co.'s No. 1 Reynolds & Miller, 330 ft. from NE and NW Sec. 15, Blk. 32, H.&T.C. ..... Drlg. 750 ft.
A. Bluhm's No. 1 Yoast, 1,760 ft. N, 600 ft. W of SE cor., Sec. 31, Blk. 3, I.&G.N. Sur. ..... Location.
Independent Operators' No. 1 Whitehead, SE SE, Sec. 30, Blk. 4, I.&G.N. Sur., elev. 1,175 ft. ..... Shut down 5,360 ft.
O. O. Owen's No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. ..... Shut down 6,760 ft.
Phantom Oil Co.'s No. 1 Ingram, 175 ft. W of E line and 300 ft. N of S line, Sec. 33, Blk. D-8, E.L.&R.R. Sur. .. Show oil 1,525 ft.; fishing 3,035 ft
Valvert Oil Corp.'s No. 1 Bassett, C NE Sec. 47, Blk. Y. Shut down 4,009 ft.

WARD COUNTY

Bradford et al's No. 1 Murry, 1,782 ft. from NW and 2,157 ft. from SW, Sec. 11, Blk. 5, H.&T.C. Sur. ..... Shut down 1,720 ft.
Gulf Prod. Co.'s No. 5 Hutchings, 330 ft. from S and W Sec. 3, Blk. F, G.&M.M.B.&A. Sur. ..... Top salt 1,205 ft.; drlg. 2,170 ft.

Gulf Prod. Co.'s No. 3 Wristen Bros., 220 ft. NE of SW and 220 ft. SE of NW Sec. 18, Blk. 5, H.&T.C. Sur.... Show gas 1,960-70 ft.; filling up with sulphur water 2,520-[illegible] ft., salt water 2,545 ft.; plugged back to 2,477 ft.

Gulf Production Co.'s No. 13 O'Brien, 330 ft. from S and 2,310 ft. from W Sec. 6, Blk. F, G.M.M.B.&A. ... Spudding.
Gulf Production Co.'s No. 14 O'Brien, 330 ft. from S and E Sec. 15, Blk. F ..... Location.
Magnolia Pet. Co.'s No. 1 Sealy, 330 ft. from S and E of NE cor. Sec. 46, Blk. 2, G.&M.M.B.&A. Sur. ..... Drlg. 765 ft.
R. F. Owens' No. 1 Johnson, 100 ft. from NE and 1,100 ft. from SE of Sec. 8, Blk. 33, H.&T.C.R.R. Sur. ..... Shut down 1,200 ft.
Penn and Atlantic's No. 1-B Pecos Mercantile Co., 990 ft. from NW and 2,310 ft. from NE, Sec. 16, Blk. 34, H.&T.C. Sur. ..... Drlg. 2,450 ft.
Richardson et al's No. 4 O'Brien et al, 330 ft. from N and 2,340 ft. from W, Sec. 5, Blk. F, G.M.M.B&A. ... Drlg. 1,124 ft.
Tex-Oil Prod. Co.'s No. 1 Redman, 1,980 ft. NE of SW line and 1,980 ft. SE of NW line, Sec. 152, Blk. 34, H.&T.C.R.R. Sur. ..... Shut down 5,077 ft.; show oil 5,070 ft.; shot 140 qts. from 5,047-77 ft.; no results.

Shipley et al's No. 5 Hayzlett, assume common line Secs. 16 and 17 is N and S, 220 ft. S and 1,910 ft. W, Sec. 17, Blk. 5 ..... Standard rig.
Shipley et al's No. 1 Monroe, 330 ft. SE SW Sec. 3, Blk. 1 ..... Drlg. 2,440 ft.
J. E. Smith's No. 1 Clement, 152 ft. SW of NE line and 153 ft. SE of NW line, Lot 7, Sec. 7, Blk. 32, H.&T.C.R.R. Sur. ..... Shut down 2,230 ft.; estimated 1,000,000 ft. gas; flowed 8 bbls oil and 30 bbls. water per day

T. P. Coal & Oil Co.'s No. 1 Barker, 330 ft. from SW and NW of Sec. 27, Blk. B-29, Public School Land .... Moving in machine.

WINKLER COUNTY

Atlantic & Maxwell's No. 1 Daugherty, 1,650 ft. from S and 2,310 ft. from E, Sec. 16, Blk. 74, Public School Land ..... Show oil and gas 2,680 ft.; coring 3,008 ft.

Magnolia Pet. Co.'s No. 3 Scarborough, 1,650 ft. from N and 990 ft. from W of Sec. 1, Blk. 77, Public School Land ..... Rig up.
A. W. Phillips' No. 2 Brown et al, 2,000 ft. S and W of NE. Sec. 4, Blk. B-5, Public School Land ..... Shut down 3,120 ft.
Liner Drlg. Co.'s No. 1 Campbell, 330 ft. from N and E cor., Sec. 2, Blk. B-5 ..... Shut down 4,440 ft.
Shell and The Texas Company's No. 1-B Cowden, 600 ft. from S and W of Sec. 39, Blk. B-5, Public School Land ..... Shut down 3,116 ft.; top pay 2,585 ft.; flowing 124 bbls. per day, 40 per cent water.

Simms Oil Co.'s No. 1 Sealy, C of SE, Sec. 49, Blk. F, G.M.M.B.&A. Sur. ..... Shut down 2,757 ft.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 70)

British-American Oil Co. and Shell Pet. Corp.'s No. 1 Smith, 330 ft. S and E, NW, Sec. 138, Blk. 3, I.& G.N. Sur. ..... Location.
Beck's No. 1 Sullivan, 330 ft. N and E, W½ NW, Sec. 135, Blk. 3, I.&G.N. Sur. ..... Rigging up.
Cockrell-McIlroy Oil Co.'s No. 1 Baer, 330 ft. S and W, NE. Sec. 126, Blk. 3, I.&G.N. Sur. ..... Running 6⅝-in. csg. 3,050 ft.
Cockrell-McIlroy Oil Co.'s No. 1 Allam, 330 ft. N and E of E½ NE. Sec. 127, Blk. 3, I.&G.N. Sur. ..... S.D. 3,330 ft; P.B. 3,317 ft; shot with 180 qts. 3,266-3,311 ft swbd. 100 bbls. oil and 30 bbls wtr.

Cockrell-McIlroy Oil Co.'s No. 1 Jackson, 330 ft. N and E of E 110 ac., SE, Sec. 138, Blk. 3, I.&G.N. Sur. .. Drlg. 2,465 ft.
Continental Oil Co.'s No. 1 Combs & Worley, 330 ft. S and E NE. Sec. 38, Blk. 3, I.&G.N. Sur. ..... T.D. 2,815 ft.
Continental Oil Co.'s No. 1 Brown, 330 ft. S and W, Sec. 115, Blk. 3, I.&G.N. Sur. ..... Spudding.
Danciger O. & R. Co.'s No. 2 Bradford, C SW NE, Sec. 148, Blk. B-2, H.&G.N. Sur. ..... S.D. 2,311 ft.
Danciger O. & R. Co.'s No. 3 Arnold, 330 ft. N and E, SE, Sec. 149, Blk. 3, I.&G.N. Sur. ..... Rig.
Danciger O. & R. Co.'s No. 1 McLaughlin, 330 ft. S and E, NW, Sec. 33, Blk. B-2, H.&G.N. Sur. ..... Drlg. 1,000 ft.
Danciger O. & R. Co.'s No. 1 Catlin et al, 175 ft. S, 300 ft. E of N 71 ac. of E 231 ac., Sec. 57, Blk. 3, I.&G.N. Sur. ..... T.D. 3,111 ft; 200 ft. oil in hole; swbd. 45 bbls. oil in 12 hrs; T. P. 3,090-3,105 ft.

Danciger O. & R. Co.'s No. 5 Morse, 330 ft. N and E, SW SW NW, Sec. 1, Blk. 26, H.&G.N.R.R. Sur..... T.D. 2,606 ft; I.P. 15 bbls. per hr. after 200-qt. shot from 2,545-2,606 ft.

Dye & Gillette's No. 1 McConnell, 330 ft. N and W, W½ SE, Sec. 187, Blk. 3, I.&G.N. Sur. ..... Drlg. 1,180 ft.
Empire G. & F. Co.'s No. 1 Crow, 875 ft. N and W, NE, Sec. 137, Blk. 3, I.&G.N. Sur. ..... S.D. 3,257 ft.
Empire G. & F. Co.'s No. 2-B Archer, 330 ft. S and E, SW, Sec. 139, Blk. 3, I.&G.N. Sur. ..... Location.
Empire G. & F. Co.'s No. 2 Sailor, 330 ft. N and W, NE, Sec. 138, Blk. 3, I.&G.N. Sur. ..... Location.

Dick Graham's No. 1 Sullivan, 792 ft. N and W, Sec. 136, Blk. 3, I.&G.N. Sur. ..... Set 8¼-in. csg. 2,340 ft.
Jean Pet. Co.'s No. 1 Futneaux Bros., 330 ft. N and W cor. SE, Sec. 200, Blk. B-2, H.&T.N. Sur. ..... S.D. 2,283 ft.
Magnolia Pet. Co.'s No. 1 Cubine, 330 ft. N and W, NE, Sec. 36, Blk. 25, H.&G.N.R.R. Sur. ..... 9,000,000 ft. gas 2,325-35 ft.; S.D. 2,775 ft.
Magnolia Pet. Co.'s No. 1 Sailor, 990 ft. S, 330 ft. W, E½ NE, Sec. 138, Blk. 3, I.&G.N. Sur. ..... Drlg. 2,745 ft.
Magnolia Pet. Co.'s No. 2 Sailor, 330 ft. S and W, E½ NE, Sec. 138, Blk. 3, I.&G.N. Sur. ..... Cellar.
Midwest Explin. Co.'s No. 1 Cobb, 1,320 ft. W, 400 ft. S, NW, Sec. 165, Blk. 3, I.&G.N. Sur. ..... Drlg. 1,735 ft.
Midwest Explin. Co. et al's No. 1 Waggoner, 1,320 ft. W, 330 ft. N, Sec. 173, Blk. 3, I.&G.N. Sur. ..... S.D. 3,226 ft; swbng. 9 bbls. per hour.

Nelson et al's No. 1 Crews, 330 ft. S and E, NW, Sec. 12, Blk. 25, H.&G.N. Sur. ..... 3,500,000 ft. gas 2,295 ft; drlg. 2,620 ft.

Operators R. & P. Co.'s No. 1 Arnold, 330 ft. S and E, E½ NE, Sec. 149, Blk. 3, I.&G.N. Sur. ..... Cellar.
Saulsbury et al's No. 1 Sheridan, 330 ft. S and E, W½ NE, Sec. 184, Blk. B-2, H.&G.N. Sur. ..... S.G. 2,805-15 ft.; S.O. 2,835-45 ft.; S.D. 3,095 ft; swbng. 35 bbls oil per day.

W. A. Scott's No. 1 Cobb, 330 ft. S, 425 ft. W, N½ SE, Sec. 184, Blk. 3, I.&G.N. Sur. ..... S.D. 2,270 ft.
Shamrock O. & G. Co.'s No. 1 Reynolds, 330 ft. N and E, SE SE, Sec. 84, Blk. 3, I.&G.N. Sur. ..... Cellar.
Smith's No. 1 Morse, 200 ft. S, 330 ft. W, Sec. 6, Blk. 26, H.&G.N. Sur. ..... 3,000,000 ft. gas 2,150-70 ft; S.D. 2,795 ft; 400 ft. oil in hole.

Smith & McDaniels' No. 1 Chapman, 990 ft. N and E, SW, Sec. 52, Blk. 25, H.&G.N. Sur. ..... Drlg. 2,805 ft.
Sullivan et al's No. 1 Morse, 150 ft. W, 330 ft. S, N½ SW, Sec. 16, Blk. A-9, H.&G.N. Sur. ..... Drlg. 870 ft.
Southern Explin. Co.'s No. 2 Vaughn, 330 ft. S and E, SW, Sec. 138, Blk. 3, I.&G.N. Sur. ..... Rigging up.
The Texas Co.'s No. 2 Brown, 170 ft. N, 330 ft. E, NW, Sec. 137, Blk. 3, I.&G.N. Sur. ..... Drlg. 2,505 ft.
Tedesco Oil Co. et al's No. 1 Morse, 330 ft. N and W, NE SW, Sec. 1, Blk. 26, H.&G.N. Sur. ..... Set 6⅝-in. csg. 2,435 ft.

HUTCHINSON COUNTY

Dixon Creek Oil Co.'s No. 1 Johnson Bros., 330 ft. N and W, of E 60 ac. of NW 100 ac., Sec. 1, Blk. X03, H.&O.B. Sur. ..... Spudded.
Great Plains O. & G. Co.'s No. 1 Sanford, C of S 160 ac. of N 320 ac., Sec. 87, Blk. 46, H.&T.C. Sur. ..... Drlg. 890 ft.
Holmes et al's No. 3 Quinn, 330 ft. S and W, Sec. 7, Blk. 6, I.&G.N. Sur. ..... Drlg. 2,475 ft.
Huber & Co.'s No. 1 Christian, 330 ft. E, 990 ft. N, SW Sec. 33, Blk. Y, A.&B. Sur. ..... Drlg. 2,985 ft.
Huber Prod. Co.'s No. 1 Johnson Bros., 330 ft. N and E, E½ NW, Sec. 30, Blk. Y, A.&B. Sur. ..... Rig on ground.
Huber Prod. Co.'s No. 1 Johnson Bros., (Pure), 330 ft. S and E, of E 240 ac., Sec. 29, Blk. Y, A.&B. Sur. Spudded.
Phillips Pet. Co.'s No. 1 Herring, 330 ft. N and E, W½, Sec. 7, Blk. X02, H.&O.B. Sur. ..... Drlg. 2,415 ft.
Phillips Pet. Co.'s No. 1 Pease, 330 ft. S and E, Sec. 9½, Z. E. Collier Sur. ..... Fishing 945 ft.
Sinclair O. & G. Co.'s No. 1 Johnson Bros., 330 ft. N and E, NW, Sec. 32, Blk. Y, A.&B. Sur. ..... S.G. 2,230-54 ft; S.D. 2,905 ft; 39,000,000 ft. gas 2,340 ft.

Sinclair O. & G. Co.'s No. 1-C Johnson Bros., 330 ft. N and W, NE, Sec. 32, Blk. Y, A.&B. Sur. ..... Location.
Skelly Oil Co.'s No. 1 Johnson Bros., 660 ft. S and W, SE, Sec. 30, Blk. Y, A.&B. Sur. ..... S.O. 3,065 ft. and 3,108-10 ft.; S.D. 3,110 ft.

Spurlock et al's No. 1-A Christian, 440 ft. S, 330 ft. W, NE cor. SE SE, Sec. 33, Blk. Y ..... 60,000,000 ft. gas; S.D. 3,219 ft.
Stansylvania Oil Co.'s No. 1 Whittenburg, 330 ft. S and W, Sec. 129, Blk. Z, E.L.&R.R. Sur. ..... Drlg. 1,000 ft.

LIPSCOMB COUNTY

Brown et al's No. 1 Box T Ranch, SW NE, Sec. 612, H.&T.C. Sur. ..... S.G. 3,760 ft.; S.D. 4,142 ft.
Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. ..... Lowering 5 3/16-in. csg; T.D. 5,003 ft.

LUBBOCK COUNTY

Center Oil Co.'s No. 1 Bowles Ranch ..... Small S.O. 1,133-40 ft.; S.D. 4,167 ft.

MOORE COUNTY

Delmar Oil Co.'s No. 1 Jones, 990 ft. E, 330 ft. N, NW, Sec. 171, Blk. 3-T, T.&N.O. Sur. ..... Rebldg. rig 3,010 ft.
Gulf Prod. Co.'s No. 1 Kilgore, C SW, Sec. 22, Blk. P.Mc., E.L.R.R. Sur. ..... Gas estimated 15,000,000 ft. 3,050-60 ft.; T.D. 3,645 ft.; to complete as gasser.

Shamrock O. & G. Co.'s No. 1 Shory, 330 ft. N and W, NE. Sec. 187, Blk. 3-T, T.&N.O. Sur. ..... 35,000,000 ft. gas 2,830-3,050 ft; S.O. 3,472 ft.; spraying 50 bbls. per day from 3,498-3,503 ft.; T. D. 3,533 ft.; P.B. 3,519 ft.; shot with 50 qts. from 3,495-3,519 ft; C.O.

Texas P. L. Co.'s No. 1 Sneed, Jr., C NE, Sec. 46, Blk. 6-T, T.&N.O. Sur ..... S.D. 2,695 ft.
Texas Interstate P. L. Co.'s No. 1 Sneed, Jr., C NE, Sec. 48, Blk. 6-T, T.&N.O. Sur. ..... Location.

MOTLEY COUNTY

Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 10, Blk. G. B.&B. Sur. ..... S.D. 580 ft.

OLDHAM COUNTY

Chambers et al's No. 1 Herring, CNL, Sec. 29, Blk. S, G.C.&S.F. Sur. ..... Location.

POTTER COUNTY

Marshall Spivey's No. 1 Bivins, C SW, Sec. 39, Blk. M-20, G.&M. Sur. ..... Fishing 2,270 ft.
Canadian River Gas Co.'s No. 1 McBride estate "A," 4,950 ft. S, 330 ft. W, E½ S½, Sec. 98, Blk. 46, H.& T.C. Sur. ..... Drlg. 1,255 ft.
Texas Interstate P. L. Co.'s No. 1 Masterson, C S 160 ac., Sec. 85, Blk. 3, G.&M. Sur. ..... Drlg. 1,735 ft.

RANDALL COUNTY

W. A. Patterson's No. 1 Palo Duro, Sec. 60, Blk. K-14 ..... S.D. 1,250 ft.

ROBERTS COUNTY

Big Bend Oil Co.'s No. 1 Ledrick, Sec. 7, Blk. A-5 ..... Shot 10 qts. 5,270-93 ft.; S.O. 5,288 ft.; S.D. 5,992 ft.

WHEELER COUNTY

Davis et al's No. 1 Stuckey, C NE SW, Sec. 92, Blk. 17, H.&G.N. Sur. ..... S.D. 170 ft.
Johnson et al's No. 2 Hicks, 890 ft. W, 990 ft. S, Sec. 49, Blk. 17, H.&G.N. Sur. ..... Drlg. 1,906 ft; 15,000,000 ft. gas 1,810-1,906 ft.

Lone Star Gas Co.'s No. 1 Krizan, C SW SW, Sec. 101, Blk. 23, H.&G.N. Sur. ..... Drlg. 130 ft.
Magnolia Pet. Co.'s No. 2 Worley, 330 ft. N and W, NE, Sec. 39, Blk. 24, H.&G.N. Sur. ..... Drlg. 430 ft.
McGee et al's No. 1 Jolly, C NE, Sec. 15, Blk. A-8, H. &G.N. Sur. ..... T.D. 2,030 ft.
Murchison & Fain's No. 2 Grogan, C SW SE, Sec. 73, Blk. 23, H.&G.N. Sur. ..... Drlg. 1,224 ft.
Murchison & Fain's No. 1 Hanes, C NW NW, Sec. 31, Blk. 17, H.&G.N. Sur. ..... Rig.
Wischkamper et al's No. 1 Kiser, 330 ft. N and E of SW, Sec. 33, Blk. 17, H.&G.N. Sur. ..... S.D. 1,510 ft.
Woodley et al's No. 1 Sloss & Admire, 660 ft. N, 330 ft. E, Sec. 47, Blk. 13, H.&G.N. Sur. ..... S.D. 1,220 ft.
Vollmert's No. 1 Porter, 330 ft. S and E, NE, Sec. 15, Blk. 27, H.&G.N. Sur. ..... Rigging up.

CAPACITY
FOR MASSIVE CONSTRUCTION

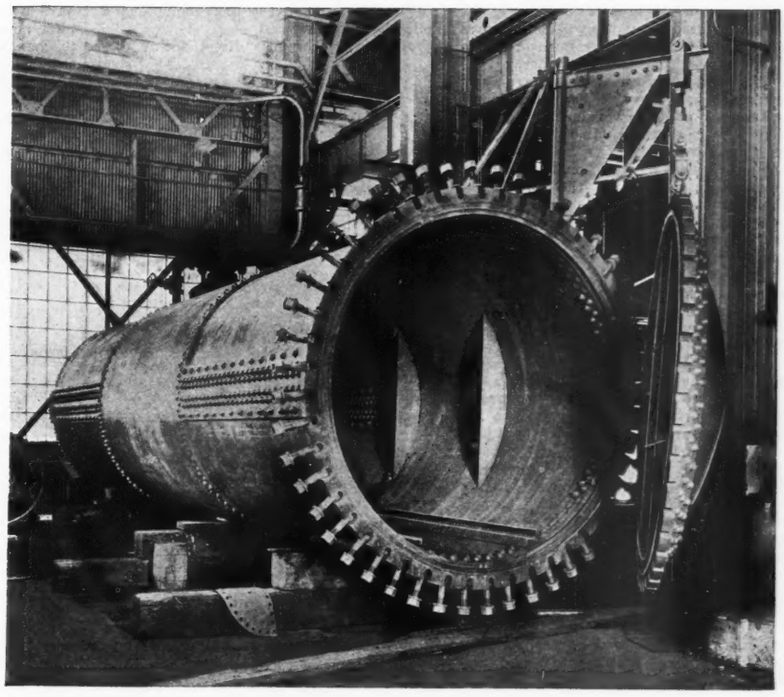
WE ARE EQUIPPED for massive construction and quantity production. Our facilities permit us to build in our shops at one time numerous pieces of equipment of large proportions.

TOWERS
STILLS
CONDENSERS
HEAT EXCHANGERS
TANKS . . .

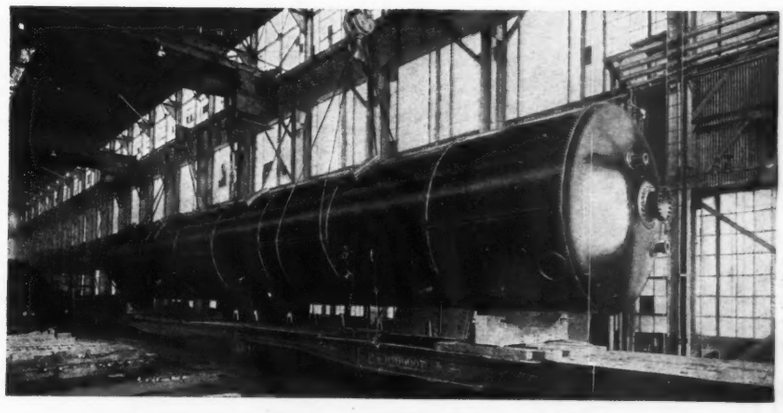
SPECIAL HEAVY BUILT TANKS . . .
RIVETED AND WELDED CONSTRUCTION

STILL BOTTOMS
ANGLE WORK
FABRICATED
PLATE WORK

Rail or Water Shipments
Estimates on Request



IMPREGNATOR SHELL



TOWER—13' 4" DIAMETER x 95' HIGH—WEIGHT 250,000 LBS.
HANDLED AND SHIPPED IN ONE PIECE

SUN SHIPBUILDING & DRY DOCK CO., Chester, Pa.

Factors Governing Regulator Choice

Direct Operated Pressure Instrument and Pilot Actuated Regulation Is Described With the Differences Outlined

By Louis H. Brendel
Nellan Co., Ltd.

The plant engineer or designer is continually being confronted with the difficult question, "Where shall I use direct operated pressure regulators and where is it imperative to have pilot actuated regulation?"

Because of its greater simplicity, the direct operated regulator will be analyzed first. Figure 1 is a diagrammatic sketch of a common type of direct operated reducing regulator. The only structural difference between a reducing regulator and a back pressure regulator (shown in Figure 2) is that the valve plug seats in the opposite direction. With a reducing regulator, the reduced or downstream pressure, is piped onto the top of the diaphragm. The reduced pressure desired is set by compressing the springs which hold the valve open. As soon as the reduced pressure reaches the desired point the pressure exerted on the diaphragm overcomes the resistance of the springs and closes the valve, thus preventing the reduced pressure from exceeding that desired.

In a like manner, with a back pressure regulator, the back or upstream pressure is piped onto the top of the diaphragm. Here the springs are compressed to the desired pressure and hold the valve closed. When the back pressure becomes greater than that for which the regulator is set the resistance of the springs is again overcome and the valve opened which permits the excess pressure to escape through the valve. Thus a back pressure regulator is merely a relief valve which will never allow the upstream pressure to rise above a predetermined, set point.

Due to its simpler construction, the direct operated regulator will always be less expensive, size for size, than its more refined brother, the pilot operated regulator. If price is considered, this comparison is somewhat upset, however, with regard to capacity—since due to the greater valve travel with a small pressure variation, a pilot actuated regulator of a much smaller size than a direct operated regulator may be used. It is also easier to adjust and repair a direct acting regulator than the more complicated pilot operated type.

Many engineers use direct acting regulators wherever possible because of their stability. That is, they are more sluggish than the pilot type, and therefore are not easily affected when used in service with fluctuating conditions. On the other hand, direct operated regulators have a far lower salvage value than do pilot actuated. This is because in order to change their pressure range the greater part of the regulator must be altered, whereas it is exceptionally easy and economical to convert the newer pilot operated regulators to any pressure range desired.

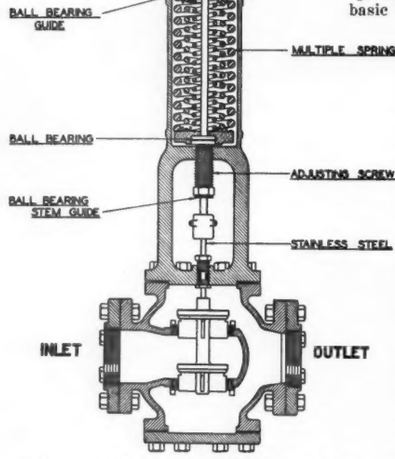


Figure 1—Direct acting reducing regulator.

The foremost limitation of the direct operated regulator is the result of its basic design. Namely, that the amount of valve travel is proportional to the amount of load change on the diaphragm. For example, if a valve in a back pressure regulator travels one-eighth inch when the pressure on the diaphragm increases 1 pound above the set pressure—then in order to obtain a full inch of valve movement, the diaphragm pressure must rise to 8 pounds above the desired set pressure. Obviously, the direct operated regulator will provide close regulation only in very small body sizes which require but slight valve movement. And this only for medium high pressures or lower, as for high pressures, even in small sizes, the springs must be so stiff that they do not supply sufficient valve travel without large pressure variations.

It may be a good thing to remind you that in speaking of the pressure range for which a regulator is suitable—the pressure applied to the diaphragm is what is considered. With a reducing regulator the reduced or downstream pressure is considered and not the high or upstream pressure. The upstream pressure, however, is the pressure to be considered when speaking of back pressure regulators. Both the inlet and outlet pressures must be known in both reducing

(Continued on Page 178)

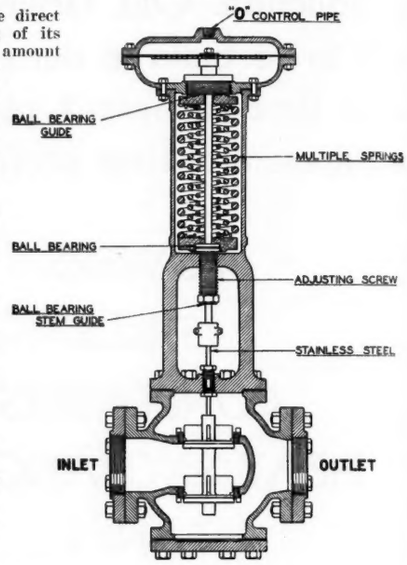


Figure 2—Direct operated back pressure regulator.

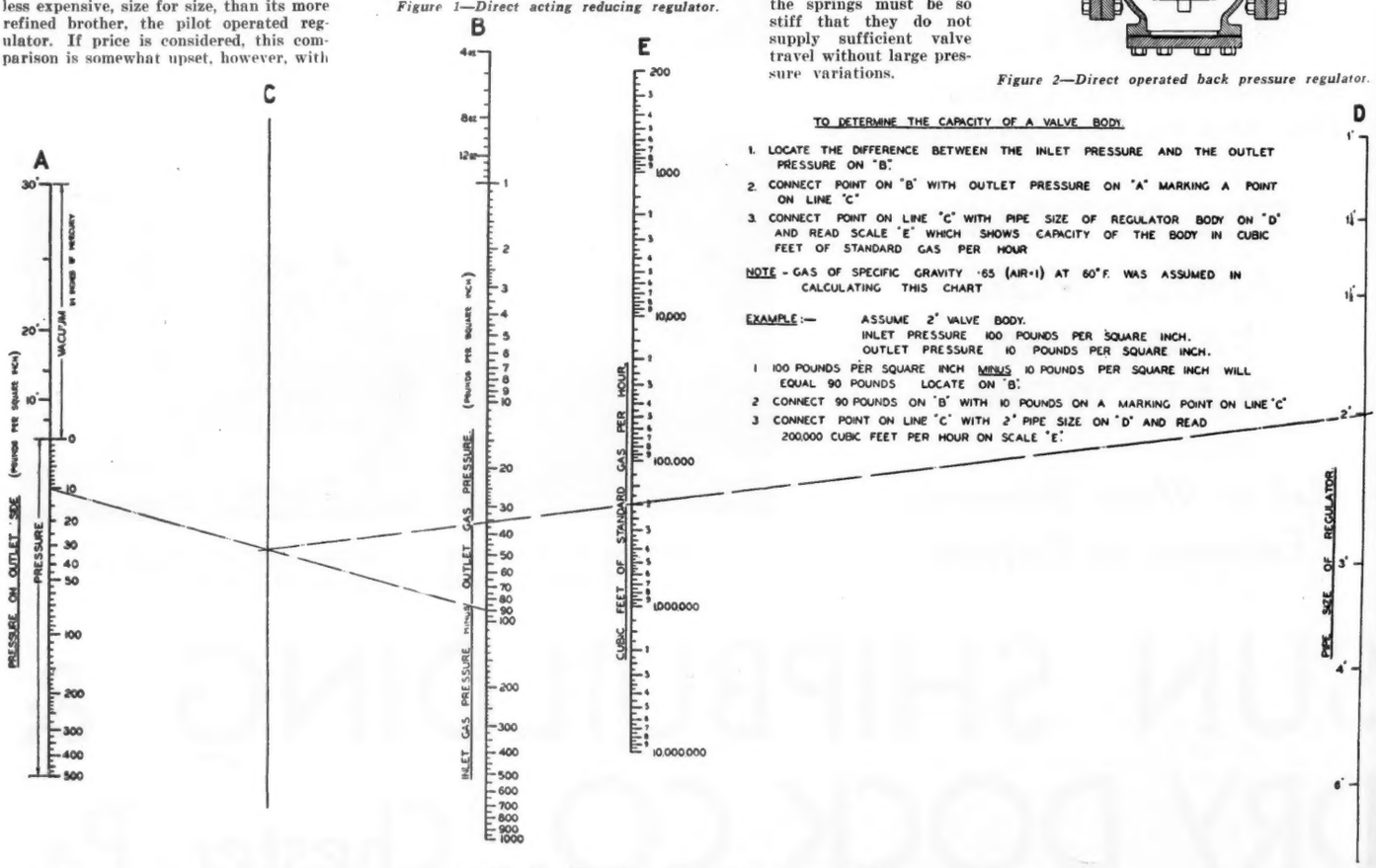

A
B
C
D
E
PRESSURE ON OUTLET SIDE (POUNDS PER SQUARE INCH)
VACUUM IN INCHES OF MERCURY
PRESSURE
INLET GAS PRESSURE MINUS OUTLET GAS PRESSURE (POUNDS PER SQUARE INCH)
CUBIC FEET OF STANDARD GAS PER HOUR
PIPE SIZE OF REGULATOR
TO DETERMINE THE CAPACITY OF A VALVE BODY
1. LOCATE THE DIFFERENCE BETWEEN THE INLET PRESSURE AND THE OUTLET PRESSURE ON "B".
2. CONNECT POINT ON "B" WITH OUTLET PRESSURE ON "A" MARKING A POINT ON LINE "C"
3. CONNECT POINT ON LINE "C" WITH PIPE SIZE OF REGULATOR BODY ON "D" AND READ SCALE "E" WHICH SHOWS CAPACITY OF THE BODY IN CUBIC FEET OF STANDARD GAS PER HOUR
NOTE - GAS OF SPECIFIC GRAVITY .65 (AIR=1) AT 60°F. WAS ASSUMED IN CALCULATING THIS CHART
EXAMPLE:— ASSUME 2" VALVE BODY.
INLET PRESSURE 100 POUNDS PER SQUARE INCH.
OUTLET PRESSURE 10 POUNDS PER SQUARE INCH.
1 100 POUNDS PER SQUARE INCH MINUS 10 POUNDS PER SQUARE INCH WILL EQUAL 90 POUNDS LOCATE ON "B".
2 CONNECT 90 POUNDS ON "B" WITH 10 POUNDS ON A MARKING POINT ON LINE "C"
3 CONNECT POINT ON LINE "C" WITH 2" PIPE SIZE ON "D" AND READ 200,000 CUBIC FEET PER HOUR ON SCALE "E".

Figure 4—Capacity chart for pilot operated regulator valve bodies.

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Continued from Page 99)

Interior Oil Co.'s No. 1 Belhaven Heights, 1,165 ft. W, 614 ft. S, NE cor., Sec. 2-5-1e.....Derrick.
Jackson Oil Co.'s No. 1 Central Cotton Oil Co., NW cor. SW NW, Sec. 3-5-1e.....Rig up.
Jackson O. & G. Co.'s No. 1 Capital Land & Inv. Co., Sec. 29-6-1e.....Drlg. 2,179 ft.
Love Pet. Co.'s No. 1 Dreyfus, Sec. 2-5-1e.....(No check); began drlg. Aug. 9; drlg. 1,670 ft.
Miss-Tex Oil Co.'s No. 1 Negro Fair Assn., SW cor. NW SE, Sec. 28-6-1e.....Rig up.
Mrs. Reeder et al's No. 1 State, SE cor. NW NW, Sec. 25-6-1e.....W.O; T.D. 2,905 ft.
Tri-State O. & G. Co.'s No. 1 Wilson, SW cor. SE NE, Sec. 23-6-1e.....Derrick.
J. A. Weir et al's No. 1 Holliday & Ross, NW SE, Sec. 8-6-2e.....Drlg. 2,412 ft.
Universal Gas Co.'s No. 1 Sharbrough, SW cor. SE, Sec. 28-6-1e.....Began drlg. July 29; S.D; W.O. 88 ft.

HUMPHRIES COUNTY

E. S. Steele et al's No. 1 C. B. Box, SE cor. SE NE, Sec. 25-14-4w.....Set 12½-in. 60 ft; S.D.

LAUDERDALE COUNTY

Lauderdale O. & G. Co.'s No. 1 Lackey, 990 ft. S and E, NW cor. NE, Sec. 2-7-16.....Tested S.W. 3,252 ft; S.D. 3,420 ft.
Meridian O. & G. Co.'s No. 1 Hauser, Sec. 33-8-18.....S.D; W.O; sandy shale 2,826 ft.
J. R. Smith Oil Co.'s No. 1 C. F. Craig, Sec. 2-16-14.....Derrick.

LAFAYETTE COUNTY

Banks-Goode et al's No. 1 May, 113½ rds. S, 26 rds. E, NW cor. SW, Sec. 22-10-1w.....Derrick.

LINCOLN COUNTY

Lincoln O. & G. Co.'s No. 1 Pat Case, NE cor. NE, Sec. 21-3-6.....S.D; W.O. 2,231 ft.

MADISON COUNTY

Barney Kennedy et al's No. 1 Raymond, 300 ft. E, 1,800 ft. N, SW cor., Sec. 32-7-2e.....Began drlg. Aug. 20; drlg. 200 ft.

MONROE COUNTY

Amory Dev. Co.'s No. 1 Bourland, Sec. 2-13-19.....S.D. 2,912 ft; bailer lost in hole.
Amory Pet. Co.'s No. 1 Hall, Sec. 8-13-19.....Shot 2,402-18 ft; small S.O.; arranging to shoot 2,387-95 ft.
Associated Oil Co.'s No. 1 School, SW cor. SW SE, Sec. 16-15-17.....Began drlg. Aug. 20.
Park Bowser et al's No. 1 Cowart, second hole, Sec. 2-12-19.....S.D. 30 ft.

RANKIN COUNTY

Gulf Ref. Co.'s No. 1 Hartfield, 1,980 ft. S, 660 ft. E, NW cor., Sec. 7-5-2e.....Began drlg. Aug. 15; cmtd. 15½-in. 73 ft; drlg. 390 ft.
R. A. Moore et al's No. 1 Interior Lbr. Co., Sec. 28-6-1e..S.D. 900 ft.
Interior Oil Co.'s No. 1 Moore, 660 ft. N, 660 ft. W, SE cor. NW NW, Sec. 28-6-2e.....S.D. 900 ft.
Ohio Oil Co.'s No. 1 Payne, NW cor. SE NE, Sec. 12-5-1e.....Began drlg. July 26; cmtd. 12½-in. 96 ft; arranging test at 2,395 ft.
Pearl River O. & G. Co.'s No. 1 Pate, 1,380 ft. N, 1,426 ft. W, SE cor., Sec. 12-5-1e.....Rig up.
Southern Pet. Co.'s No. 1 Investment, 2,170 ft. N, 1,790 ft. W, SE cor., Sec. 12-5-1e.....Derrick.

WARREN COUNTY

El Dorado Oil Co.'s No. 1 Dornbush, Sec. 8-18-15.....S.D. 2,475 ft.; 2,350 ft. D.S. in hole; W.O.

WILKINSON COUNTY

A. C. Glassell et al's No. 1 Stowers, 31.4 chains W, 27.2 chains S, NE cor., Sec. 29-8-2w.....S.D. fuel 3,500 ft.

YALOBUSHA COUNTY

Carter Oil Co. and J. W. Collett's No. 1 Blackmur, 330 ft. S, 990 ft. W, Sec. 14-11-4.....Fishing 2,300 ft.

YAZOO COUNTY

Amerada Pet. Corp.'s No. 1 Doherty, SW SW, Sec. 24-12-2.....Drlg. sandy lime 5,133 ft.

ALABAMA
LAMAR COUNTY

Griggs & Knapp's No. 1 Wefel, Sec. 25-12-14.....T.A. 1,740 ft.

LAUDERDALE COUNTY

A. D. Morton et al's No. 10 O'Neal est., Sec. 8-2s-13w....Cmtd. 12½-in. 125 ft.; drlg. hard lime 905 ft.

MARION COUNTY

Hobson et al's No. 1 John Clark, SE, Sec. 29-11-14.....Derrick pattern.

WASHINGTON COUNTY

S. A. Hobson's No. 1 Hobson Bros., Sec. 9-8-2.....S.D.; W.O.; flow ⅞t 1,450 ft.
S. A. Hobson's No. 1 Wilson, Sec. 27-7-1.....Fishing bailer; T.D. 881 ft.
Oscar Brown's No. 2 Land & Cotton Co., Sec. 25-3-2w..Drlg. 700 ft.

LOUISIANA-ARKANSAS PROVEN AREAS

(Continued from Page 54)

BOSSIER PARISH—SLIGO

La. G. & F. Co.'s No. 4 Skannal, 3,300 ft. E, 660 ft. S, NW cor., Sec. 13-17-12.....Began drlg. Aug. 7; 12-in. 63 ft; drlg. 1,575 ft.
Woodley Pet. Co.'s No. 3 Schuler, 660 ft. N, 460 ft. E, SW cor. NW, Sec. 13-17-12.....Began drlg. Aug. 14; cmtd. 10-in. 147 ft; 6-in. 2,420 ft.

CADDO PARISH—GREENWOOD

Calatex O. & G. Co.'s No. 1 Edgar, 1,460 ft. S, 1,900 ft. E, NW cor., Sec. 17-16-16.....Location.
Calatex O. & G. Co.'s No. 1 McAnn-Alfred, 1,810 ft. S, 970 ft. E, NW cor., Sec. 17-16-16.....Location.
Calatex O. & G. Co.'s No. 1 Hudson, 2,395 ft. N, 660 ft. E, SW cor., Sec. 8-16-16.....Derrick.

CADDO PARISH—MOORINGSPORT

Falcon Oil Co.'s No. 1 Miller, 1,020 ft. N, 1,320 ft. E, SW cor., Sec. 29-20-15.....Arranging test; T.D. 2,365 ft.
The Texas Co.'s No. 5 Leonard fee, 2,440 ft. W, 200 ft. S, NE cor., Sec. 29-20-15.....W.O.S.R. 2,350 ft.

CADDO PARISH—OIL CITY

The Texas Co.'s No. 73 Levee Board, 1,642 ft. E, 780 ft. N, SW cor. SW SE, Sec. 27-21-16.....Location.

CADDO PARISH—PINE ISLAND

Bayou State Oil Co.'s No. 3 Barr, 300 ft. W, 275 ft. S, NE cor. SE SW, Sec. 30-22-15.....Derrick.
Shreveport Oil Corp.'s No. 1-A Muslow, 150 ft. S, 150 ft. E, NW cor., Sec. 32-21-15.....Began drlg. Aug. 13; cmtd. 10-in. 42 ft; drlg. 875 ft.

DE SOTO PARISH—HOLLY

Standard Oil Co.'s No. 2 Dowling Bros., 330 ft. S, 330 ft. W, NE cor. SW NE, Sec. 5-13-13.....Drlg. 2,821 ft.

LA SALLE PARISH—URANIA

Montugu Oil Co.'s No. 8 Zenoria Lbr. Co., 710 ft. S, 250 ft. W, NE cor., Sec. 10-9-1e.....W.O.S.R. 1,510 ft.

MOREHOUSE PARISH

Bahan & Bahan's No. 4 Feazel, 900 ft. W, 330 ft. S, NE cor., Sec. 2-20-4.....Location.
Grecian Bend Gas Co.'s No. 1 J. D. Sandidge et al, 660 ft. W, 1,980 ft. N, SE cor. NE, Sec. 2-20-4.....Location.
Industrial Gas Co.'s No. 2 fee, 660 ft. E, 660 ft. S, NW cor. NE, Sec. 3-20-4.....Cmtd. 6-in. 2,097 ft.
La. G. & F. Co.'s No. 26 Crossett, 645 ft. E, 574 ft. S, NW cor., Lot 9, Sec. 33-21-5.....Plugged back to 2,369 ft. to cut off S.W; T.D. 2,380 ft.
Ouachita Nat. Gas Co.'s No. 2 Cole, 660 ft. S, 613 ft. W, NE cor., Sec. 13-20-4.....Location.
Ouachita Nat. Gas Co.'s No. 6 Sandidge, 732 ft. S, 1,209 ft. W, NE cor. SE, Sec. 23-20-4.....Began drlg. Aug. 14; cmtd. 12½-in. 178 ft; drlg. 806 ft.
Ouachita Nat. Gas Co.'s No. 7 Sandidge, 1,047 ft. N, 694 ft. E, SW cor. NW, Sec. 24-20-4.....Location.
Southern Carbon Co.'s No. 13 Tensas, 660 ft. S, 1,320 ft. W, NE cor., Sec. 4-20-4.....Began drlg. Aug. 16; drlg. 180 ft.

OUACHITA PARISH

Amalgamated Co.'s No. 1-B Kate Cole, 660 ft. N, 660 ft. E, SW cor. NE SW, Sec. 25-20-4.....Rig up.
Ark.-La. P. L. Co.'s No. 5 McEnery, 1,310 ft. S, 1,040 ft. E, NW cor. NE NW, Sec. 28-19-4.....Rig up.
Carbon Cons., Inc.'s No. 5 Guthrie (was United Oil & Nat. Gas Co.'s No. 5 Guthrie), 6,634 ft. N, 7,078 ft. W, cor. Secs. 49, 25 and 26, in Sec. 50-20-4.....Drlg. 2,100 ft.
Greenwood Prod. Co.'s No. 1 J. E. Morris, 3,923 ft. E, 660 ft. S. SW cor. NW NW, Sec. 36-19-3.....Cmtd. 6-in. 2,137 ft.
Greenwood Prod. Co.'s No. 1 White, 1,306 ft. W, 660 ft. N, SE cor. NW NE, Sec. 36-19-3.....Location.
Jordan Drlg. Co.'s No. 7 Cole, 265 ft. S, 1,459 ft. W, NE cor., Sec. 49, in Sec. 50-18-4.....Location.
Jordan Drlg. Co.'s No. 1 J. P. Parker, 950 ft. N, 485 ft. W, cor. Secs. 41, 9 and 16, in Sec. 41-18-4.....Drlg. 1,650 ft.
Jordan Drlg. Co.'s No. 1 School, 216 ft. S, 244 ft. W, NE cor. NW, Sec. 16-18-4.....Location.
La. G. & F. Co.'s No. 4 Breard, S 9°, W 966 ft., S 81°, E 451 ft., NW cor., Sec. 43-18-4.....Cmtd. 6-in. 2,174 ft.
Magnolia Pet. Co.'s No. 1 Breard, 550 ft. N, 660 ft. W, SE cor. NW NE, Sec. 15-18-4.....Rig up.
Pipes & Mack's No. 2 Union Gas Products Co., 296 ft. W, 528 ft. N, SE cor. SW, Sec. 7-18-5.....Location.
United Carbon Co.'s No. 6 Spade, 1,180 ft. S, 140 ft. E, NW cor., Sec. 27-19-4.....Location.

RICHLAND PARISH

W. C. Feazel's No. 1 R. B. Simon, 2,406 ft. W, 2,020 ft. S, NE cor., Sec. 11-16-6.....Rig moved; derrick.
Franklin O. & G. Co.'s No. 1 Thompson, 660 ft. N, 165 ft. W, SE cor. NE, Sec. 14-16-6.....Location.
Hope Prod. Co.'s No. 1 J. E. Duff, 660 ft. N, 1,980 ft. W, SE cor., Sec. 15-16-6.....Began drlg. Aug. 16; cmtd. 12-in. 187 ft.
International Gas Prod. Co.'s No. 1 Minnie LaGrone, 769 ft. N, 858 ft. E, SW cor., Sec. 7-16-7.....Location.
La. G. & F. Co.'s No. 1 Etheridge, 1,412 ft. S, 770 ft. E, NW cor. NE, Sec. 28-17-6.....Rig up.
Northern La. Nat. Gas Co.'s No. 2 J. H. Hemler, 669 ft. S, 1,995 ft. W, NE cor., Sec. 11-16-6.....Set 6-in. 2,300 ft.
Northern La. Nat. Gas Co.'s No. 5-B McCoy, 1,650 ft. S, 660 ft. W, NE cor., Sec. 17-16-6.....Derrick.
Northern La. Nat. Gas Co.'s No. 1 McKay, 681 ft. W, 559 ft. N, SE cor. SW, Sec. 22-16-6.....Began drlg. Aug. 16; cmtd. 12½-in. 177 ft.
Palmer Corp.'s No. 1-B Boykin, 177 ft. S, 787 ft. E, C, Sec. 33-17-6.....Derrick.
Palmer Corp.'s No. 1 Hill, 1,320 ft. S, 660 ft. E, NW cor. SW, Sec. 31-16-6.....Drlg. 2,288 ft.
Palmer Corp.'s No. 1 Noble, 1,660 ft. E, 887 ft. N, SW cor., Sec. 25-16-6.....Began drlg. Aug. 7; cmtd. 12½-in. 185 ft; 9-in. 864 ft; drlg. 1,863 ft.
Richland Prod. Co.'s No. 3 M. L. McCoy, 1,980 ft. S, 662 ft. W, NE cor., Sec. 29-16-6.....Began drlg. Aug. 16; cmtd. 12½-in. 163 ft.
Southern Carbon Co.'s No. 1-B Hallock, 1,622 ft. N, 990 ft. W, SE cor. NW, Sec. 1-16-6.....Began drlg. June 13; cmtd. 12-in. 185 ft; 8-in. 865 ft.
Southern Carbon Co.'s No. 1 G. Harris, 10 ft. S, 660 ft. W, NE cor., Sec. 10-16-6.....Location.
Southern Carbon Co.'s No. 1-B Hemler, 660 ft. N, 1,435 ft. E, SW cor., Sec. 1-16-6.....6-in. 2,285 ft.
Southern Carbon Co.'s No. 1-C Hemler, 1,164 ft. S, 888 ft. W, NE cor., Sec. 14-16-6.....Location.
Southern Carbon Co.'s No. 2-C M. L. McCoy, 1,880 ft. N, 5,024 ft. E, SW cor., Sec. 1-16-6.....Location.
Southern Carbon Co.'s No. 5 F. B. and E. A. Sartor, 1,156 ft. E, 631 ft. S, NW cor. SW, Sec. 19-16-6.....Cmtd. 6-in. 2,300 ft; drlg. 2,390 ft.
Southern Carbon Co.'s No. 6 F. B. and E. A. Sartor, 2,640 ft. N, 2,031 ft. W, SE cor., Sec. 24-16-5.....Cmtd. 8-in. 881 ft; drlg. 1,070 ft.
Southern Carbon Co.'s No. 1 H. L. Thomason, 1,980 ft. S, 665 ft. E, NW cor., Sec. 11-16-6.....Drlg. 2,371 ft.
Southern Carbon Co.'s No. 1-B Thomason et al, 2,310 ft. W, 100 ft. S, NE cor., Sec. 23-16-6.....Drlg. 1,950 ft.
Southern Carbon Co.'s No. 1-C Thomason, 1,980 ft. N, 1,400 ft. W, SE cor., Sec. 14-16-6.....Location.
Southern Carbon Co.'s No. 1-D Thomason, 1,320 ft. S, 660 ft. W, NE cor., Sec. 31-16-6.....Drlg. 2,020 ft.
United Carbon Co.'s No. 1 Boise, 1,320 ft. W, 660 ft. N, SE cor., Sec. 28-16-6.....Cmtd. 6-in. 2,285 ft.
United Carbon Co.'s No. 1 Landers, 1,320 ft. S, 660 ft. E, NW cor., Sec. 3-15-6.....Location.
United Carbon Co.'s No. 1 Noble, 530 ft. W, 1,255 ft. S, cor. Secs. 5, 6 and 37, in Sec. 37-15-6.....Began drlg. Aug. 14; cmtd. 12-in. 187 ft; 8-in. 814 ft.
United Carbon Co.'s No. 1-A J. M. Thomason, 2,032 ft. N, 3,338 ft. W, SE cor., Sec. 22-16-6.....Cmtd. 6-in. 2,285 ft.

SABINE PARISH—PLEASANT HILL

Ark. Fuel Oil Co.'s No. 14 Logan, 1,035 ft. N, 241 ft. W, C, Sec. 33-10-12.....W.O.S.R; 8-ft. sand; T.D. 3,230 ft.
F. A. Bartlett, Jr.'s No. 1 Logan, 200 ft. S, 200 ft. E, NW cor., Sec. 27-10-12.....Began drlg. July 13; cmtd. 12-in. 110 ft.
A. C. Glassell's No. 1 Logan Oil Co., 300 ft. E. C, Sec. 23-10-13.....S.D. wtr; T.D. 1,535 ft.

SABINE PARISH—ZWOLLE

Tom Davis' (was T. D. Allison's) No. 1 Holliday, Sec. 31-8-12, Zwolle Townsite.....S.D. wtr. 1,350 ft.
F. M. Hood's No. 1-B (was No. 2) Winston, 700 ft. E, 425 ft. S, NW cor., Sec. 31-8-12, Zwolle Townsite....S.D. 1,065 ft.
Huber & Mann's No. 1 Newton, 330 ft. S, 330 ft. E, NW cor. NE SW, Sec. 25-8-12.....Began drlg. Aug. 15; cmtd. 8-in. 83 ft; drlg. 850 ft.
Ab Jones et al's No. 1 Ferguson, 330 ft. N, 330 ft. W, SE cor. NE SW, Sec. 33-8-12.....Rig up.
Lacey Pet. Co.'s No. 1 Tatum, 350 ft. W, 200 ft. N, SE cor. SW NE, Sec. 26-8-12.....Rig up.
Lacey Burkett Co.'s No. 1 Danna, 316 ft. E, 200 ft. S, C, Sec. 26-8-12.....Derrick.
Lanier & Tarver's No. 1 Newton, 530 ft. S, 530 ft. E, NW cor. NW SW, Sec. 25-8-12.....Rig up.
Loring Oil Co.'s No. 8 Bowman-Hicks, 330 ft. S, 330 ft. E. NW cor. SW SE, Sec. 33-8-12.....Shot with 270 qts; T.A. 2,700 ft.
Loring Oil Co.'s No. 10 Bowman-Hicks, 330 ft. N, 330 ft. E, SW cor. NE SE, Sec. 33-8-12.....S.D. 2,664 ft.
Loring Oil Co.'s No. 11 Bowman-Hicks, Sec. 34-8-12.....Cmtd. 6⅝-in. 2,330 ft; T.D. 2,382 ft.
Loring Oil Co.'s No. 12 Bowman-Hicks, 330 ft. S, 345 ft. W, NE cor. SE NE, Sec. 33-8-12.....Derrick.
Loring Oil Co.'s No. 2 Sabine Lbr. Co., 1,430 ft. E, 340 ft. N, C, Sec. 34-8-12.....Bailed 6⅝-in. dry; T.D. 2,296 ft.
Loring Oil Co.'s No. 1 Schuffert, 330 ft. S, 330 ft. W, NE cor. NE SE, Sec. 27-8-12.....Arranging cmt. 6⅝-in. 2,376 ft.
Loring Oil Co.'s No. 2 Schull, 957 ft. E, 330 ft. S, NW cor. SW, Sec. 26-8-12.....Rig up.

Ohio Oil Co.'s No. 5 Bowman-Hicks, 330 ft. N, 330 ft. E, SW cor., Sec. 33-8-12.....Cmtd. bottom; T.D. 2,708 ft.
W. D. Perritt et al's No. 1 Elliott, 150 ft. N, 150 ft. E, SW cor. SW SE SW, Sec. 30-8-12.....Arranging to set 6-in. 2,214 ft.
Philp Bros.' No. 1 Dow, Lot 1, Blk. 18, Zwolle Townsite, Sec. 31-8-12.....Bailed dry 2,300 ft; S.D.
Posey et al's No. 1 Peterson, Blk. 16, Zwolle Townsite, Sec. 31-8-12.....S.D. 250 ft.
Pugh-Hickman Drlg. Co.'s No. 1 Sabine Lbr. Co., 350 ft. N, 359 ft. E, SW cor. NW NE, Sec. 34-8-12.....Derrick.
The Texas Co.'s No. 1 Glauque, 1,670 ft. E, 260 ft. N, SW cor., Sec. 27-8-12.....Began drlg. Aug. 18; cmtd. 10-in. 103 ft.
Wheatcroft et al's No. 1 Sabine Lbr. Co., SW NE, Sec. 31-8-12.....S.D. 2,495 ft.

SABINE PARISH—BLUE LAKE

R. L. Gay's No. 8 Bowman-Hicks, Sec. 18-7-13.....S.D. 2,552 ft.
R. L. Gay, trustee's No. 5 Sabine Lbr. Co., 330 ft. S, 330 ft. W, NE cor. SE NE, Sec. 15-7-14.....Drlg. 1,179 ft.

UNION PARISH

Greenwood Prod. Co.'s No. 4 Norsworthy, 1,336 ft. E, 1,980 ft. N, SW cor., Sec. 9-21-3.....Began drlg. Aug. 10; cmtd. 12½-in. 165 ft; 8-in. 800 ft; 6-in. 2,041 ft.
Industrial Gas Co.'s No. 6 Grayling Lbr. Co., 660 ft. E, 665 ft. N, SW cor. NW, Sec. 53-21-4.....Derrick.
Interstate Nat. Gas Co.'s No. 1 J. M. Edwards, 1,980 ft. W, 660 ft. S, NE cor., Sec. 11-21-3.....Rig up.
Nemours Corp.'s No. 2 Hollis, 317 ft. S, 995 ft. W, NE cor. NW, Sec. 11-20-3.....Began drlg. Aug. 18; cmtd. 12-in. 192 ft; drlg. 350 ft.
Stovall Drlg. Co.'s No. 1 Murray, 1,650 ft. N, 330 ft. W, SE cor. SW, Sec. 32-23-4.....Rig up.

WEBSTER PARISH—SAREPTA AND SHONGALOO

Ideal O. & G. Co.'s No. 1 Coyle, 300 ft. N, 300 ft. E, SW cor. SW SE, Sec. 24-23-11.....Derrick.
H. M. Jones Drlg. Co.'s (was E. W. Bateman's) No. 2 Cook, 200 ft. S, 200 ft. W, NE cor. SE NW, Sec. 2-22-11.....14-ft. sand; W.O.S.R. 2,727 ft.
H. M. Jones Drlg. Co.'s No. 1 Womble, 360 ft. S, 200 ft. E, NW cor. SW, Sec. 1-22-11.....Derrick.
K. C. Supply Co.'s No. 1 Cochrane, 330 ft. N, 330 ft. W, SE cor. E½ NW, Sec. 36-23-11.....Plugged back to 2,713 ft; T.D. 2,726 ft.
Liggett et al's No. 1 Slack, 720 ft. E, 150 ft. N, SW cor. SE, Sec. 36-23-11.....Cmtd. 6-in. 2,732 ft.
Liggett et al's No. 2 Slack, 720 ft. E, 150 ft. N, SW cor. SE SE, Sec. 36-23-11.....S.D. 2,618 ft.
Magnolia Pet. Co.'s No. 2 Sally Coyle, 150 ft. N, 150 ft. W, SE cor. SE NE, Sec. 2-22-11.....Cmtd. 8⅛-in. 2,706 ft; T.D. 2,712 ft.
Merrick Oil Corp.'s No. 3 Slack, 330 ft. N, 330 ft. W, SE cor. SW SE, Sec. 36-23-11.....Derrick.
Sarepta Oil Co.'s No. 3 Gardner, 396 ft. N, 78 ft. E, SW cor. NW NW, Sec. 6-22-10.....Derrick.
W. O. Neely's No. 1 J. R. Slack, 150 ft. N, 150 ft. E, SW cor., Sec. 12-22-11.....Location.
Sarepta Oil Co.'s No. 2 Gardner, NE SW, Sec. 1-22-11.....Rig up.
Sarepta Oil Co.'s No. 1 Slack, SW cor. NW NE, Sec. 36-23-11.....Rig up.
Southern Prod. Co.'s No. 4 Slack, 600 ft. N, 600 ft. W, SE cor. NW NE, Sec. 1-22-11.....Location.
Service Drlg. & Royalties Co.'s No. 4 Waller estate, 330 ft. N, 330 ft. E, SW cor., Sec. 21-23-11.....Rig up.

ARKANSAS

JOHNSON COUNTY

Ark.-La. P. L. Co.'s No. 1 Cline, 660 ft. S, 660 ft. W, NE cor. NE SE, Sec. 16-10-24.....7-in. at 3,325 ft; bailing csg.
Conn Grable's No. 1 Hoeing, 720 ft. N, 590 ft. W, SE cor., Sec. 20-9-25.....S.D. 2,070 ft; C.D.

NEVADA COUNTY

C. F. Steele's No. 1 E. W. Groves, Sec. 21-14-20.....S.D. 2,810 ft.

OUACHITA COUNTY—SMACKOVER

L. H. Hamilton's No. 3 Doyle, 100 ft. E, 400 ft. N, SW cor. SE SE, Sec. 23-15-16.....Derrick.
Standard Oil Co.'s No. 7 Farris, 200 ft. S, 200 ft. W, NE cor. NW NW, Sec. 34-15-15.....W.O.S.R; 300 ft. fluid; top sand 1,998 ft; T.D. 2,035 ft.
Wilson & Chapman's No. 1-B Arnold, 330 ft. N, 330 ft. E, SW cor. SE SW, Sec. 24-16-15.....W.O.S.R; 150 ft. oil; T.D. 2,061 ft.
Wilson & Chapman's No. 2-B Arnold, Sec. 24-15-16.....Rig up.

UNION COUNTY—CHAMPAGNOLLE

Ohio Oil Co.'s No. 10 Crain, 330 ft. S, 330 ft. W, NE cor. SE SW, Sec. 1-17-14.....Derrick.
Ohio Oil Co.'s No. 2 R. Pumphrey, 330 ft. N, 330 ft. E, SW cor. NE, Sec. 12-17-14.....Began drlg. Aug. 13; cmtd. 10-in. 195 ft; drlg. 1,260 ft.
Ohio Oil Co.'s No. 4 R. Pumphrey, 330 ft. S, 330 ft. W, NE cor. NE NW, Sec. 12-17-14.....Derrick.
Sundby et al's No. 2 Perdue, 75 ft. S, 150 ft. E, NW cor., Sec. 32-16-14.....S.D. 3,205 ft.

UNION COUNTY—EL DORADO

H. L. Hunt's No. 6 Pratt, 150 ft. N, 330 ft. E, SW cor. NE NE, Sec. 7-18-15.....S.W. 2,214 ft.

EAST TEXAS

HARRISON COUNTY

Calatex O. & G. Co.'s No. 6 Agurs, 755 ft. N, 699 ft. W, Mile Post 27, in J. Womack Sur.....Location.
Shell Rock Pet. Co.'s No. 1 Oliver Dougherty, W. D. Burris Sur.....Fishing; T.D. 3,445 ft.

PANOLA COUNTY

Ark.-La. P. L. Co.'s No. 2-A G. W. Brumble, 477 ft. W, 473 ft. S, NW cor., Jno. Womack Sur., in B. C. Jordan Sur.....Fishing D.S; T.D. 4,408 ft.
S. E. Bell et al's No. 1 Burnett Lbr. Co., center S. B. Hendricks Sur.....Drlg. chalk 1,800 ft.
Jackson et al's No. 1 Dunham, 150 ft. W, 150 ft. N, SE cor., M. I. Dunham 29 ac., in Chas. Haley Sur.....S.D. 2,005 ft.
Nat. Gas Products Co.'s No. 3 Tom Moore, 889 ft. E, 7,928 ft. S, NW cor., B. C. Jordan Sur.....Drlg. 4,160 ft.
The Texas Co.'s No. 10 G. W. Brumble, SE cor., E. F. Mitcheson Sur.....Began drlg. July 17; cmtd. 10-in. 38 ft; drlg. 1,450 ft.
The Texas Co.'s No. 11 G. W. Brumble, 2,814 ft. N, 700 ft. W, SE cor., E. F. Mitcheson Sur.....Drlg. chalk 1,340 ft.
Doris Thomason's No. 15 Crenshaw, 1,992 ft. S, 2,305 ft. E, SW cor. Jno. Womack Sur., in B. C. Jordan Sur.....Derrick.
Warren & Davis' No. 1 McNuse, 1,671 ft. S, 1,329 ft. E, NW cor., Abe Brooker Sur.....Derrick.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

(Continued from Page 55)

BROOKS COUNTY

Houston Oil Co. of Texas' No. 1 Wormser-Holbien, 1,550 ft. S, 2,650 ft. E of intersection of Lisandro Saenz & Manuel Saenz tracts, El Palo & Blanco de Maguellas grant, SW of Lasater discovery gas....Location.
Houston Oil Co.'s No. 2 Wormser, 200 ft. N of CSL, 964-ac. tract in the P. Maguellas Sur.....T.D. 2,792 ft; drlg.
Humble Oil & Ref. Co.-Shell Pet. Corp.'s No. 2 Wm. Singers, 1,320 ft. W of E line, 1,800 ft. S of N line of Sec. 312, Alta Verde area, 7 miles SE from Lasater gas field.....T. D. 4,490 ft.; drlg.
Southern Crude Oil Purchasing Co.'s No. 1 Holbein-Wormser, 990 ft. from E line, 1,000 ft. from S line of Blk. 39, E. P. de Moguellas Sur.....T. D. 400 ft.; W.O.C.

BEE COUNTY

E. M. Jones' No. 2 Rapp, 1,065 ft. from N line, 1,065 ft. W line of lease, Tuleta district.....T. D. 3,126 ft.; abd.; dry.
William F. Morgan and Independent Oil & Gas Co.'s No. 1 Quincy, C Blk. 9 of 11,000-ac. Quincy Subd. of Bee County.....T. D. 3,700 ft.; drlg.
O'Neal & Catlett's No. 1 Pat Pugh.....Location.
Simms Oil Co.'s No. 1 Halzmark, 820 ft. SE line, 2,952 ft. SW line of J. A. York Sur.....T. D. 2,950 ft.; drlg.
S. R. C.'s No. 1 Theis, 2,700 ft. from N line, 300 ft. from W line of 782-ac. tract, Burns Sur.....T. D. 2,120 ft.; drlg.
E. S. Price's No. 3 Weiss, 900 ft. due NE of No. 1 Weiss.....Location.
E. S. Price's No. 2 Weiss, 900 ft. due SW of No. 1 Weiss, B&B Sur.....Derrick.
Cosden Oil Co.'s No. 1 Stoltzfus, 2,310 ft. to S and E lines of Sec. 14, Ragley Subdn. of C. Miller ranch, Uranga Sur.....Location.

BEXAR COUNTY

Moore-Jauer's No. 1 Holly R. Ellison.....T.D. 2,155 ft; fishing.
K. M. S. Petroleum Co.'s No. 1 E. Salicky, 132 ft. from E line, 10 ft. S line of tract, Blk. 15, Mission Gardens.....Location.
J. M. Russell's No. 1 F. L. Price, 1,590 ft. to N line, 660 ft. W line of tract in Angel Navarro Sur.....T.D. 50 ft; S.D.
J. M. Russell's No. 1 A. O. Miles, 1,600 ft. N line, 600 ft. W line 450-ac. tract, Angel Navarro Sur., 10 miles S from San Antonio.....T.D. 735 ft; moving in.
Henry Yelvington et al's No. 1 Beck, 365 ft. from W line, 310 ft. from S line 100-ac. tract, SW cor. of P. W. Hays Sur., 7 miles E from San Antonio.....T.D. 1,470 ft; S.D.
Snyder, Reeves and others' No. 2 Glasscock, 12 miles NE of San Antonio.....T.D. 200 ft; drlg.
August Magel's No. 1 Alvin Beck, 520 ft. from W line, 1,300 ft. from S line of Sur. No. 36.....Location.
C. S. Bowman's No. 1 Riddler, 1,000 ft. from S and W lines of 700-ac. tract, Block 4,311, Sur. No. 5.....Location.
Penn Oil Co.'s No. 1 Cooksey, 1,150 ft. to E line, 150 ft. to N line of survey, J. Riall Sur.....Location.

CALDWELL COUNTY

J. T. Callahan's No. 1 W. H. Callahan, 630 ft. S line, 2,280 ft. W line 176-ac. tract in the J. R. Miller Sur.....Abd. drilling; hole junked.
W. E. Allaun's No. 1 Cosey, SW cor. of tract.....Location.
W. E. Allaun's No. 2 McKean, 300 ft. W of No. 1.....Location.
Matthews and others' No. 1 Osteen, 150 ft. E of M.K.T. tracks, 150 ft. N of S line of lease, N. Kelley Sur.....T. D. 300 ft.; drlg.

CALHOUN COUNTY

The Texas Company's No. 1 Thomas in the J. D. Tilly Sur.....T.D. 4,050 ft; drlg.

COLORADO COUNTY

Penn Oil Co.'s No. 1 H. C. Wilson, 450 ft. from W line, 450 ft. from N line of 50-ac. tract in the John McCrosky Sur., 5 miles E from Colubus.....T.D. 4,738 ft; dry and abd.

CONCHO COUNTY

Turner et al's No. 1 Borsig, 150 ft. from S of NE cor. of G. Emmig Sur., 6 miles W from Paint Rock.....T.D. 735 ft; S.D.
Beasley et al's No. 1 S. Waring estate, 1,320 ft. from S and E lines of Sur., Abstract 2,120 in the A. T. Robinson Sur.....Machine.

COMAL COUNTY

Caldwell & Lanier's No. 1 T. J. Byler, 175 varas from W line, 370 varas from N line of 320-ac. tract in the H.E.&W.T. No. 5,894 Sur.....T.D. 120 ft; drlg.
New Braunfels Oil & Gas Co.'s No. 1 Adolph Seidemann, 269 ft. to NE line, 470 ft. to NW line of farm in the A. M. Esneuricas 11-League Sur., 1 mile SE from New Braunfels.....T. D. 314 ft.; drlg. in Edwards.

DEWITT COUNTY

H. T. Roe's No. 1 Leinhardt.....T.D. 2,170 ft; S.D.

DUVAL COUNTY

Vacuum Oil Co.'s No. 1 Duval County Ranch Co., 3,143 ft. N line, 1,368 ft. S line, Sur. 220.....Drlg. wtr. well.
Sal Oil & Gas Co.'s (Southern Oil Co.) No. 2 Welder-Wood, 1,980 ft. E line, 2,490 ft. N line, Sur. 215.....T.D. 2,130 ft; drlg.
T. W. Callahan and W. M. Howard's No. 1 J. M. Luby, 3,960 ft. N line, 3,960 ft. W line, Sur. 24.....T. D. 3,790 ft.; drlg.
Putnam & Walsh's No. 1 Hagist, 570 ft. N line, 150 ft. E line, Blk. 5, Sur. 269.....T. D. 2,510 ft.; abd.; dry.
Sloan and others' No. 1 Luby, SW cor. of Survey 593.....Location.

EDWARDS COUNTY

Phillips Pet. Corp.'s No. 2 A. G. Holman, 320 ft. from N and E lines of SE of tract, C.C.S.D.&N.G.R.G. Sur. No. 25.....T. D. 4,290 ft.; drlg. in shale.
James Dalgish's No. 3 Peterson, 850 ft. N line, 1,100 ft. W line of Sec. 82, Blk. E in the H.E.&W.T. Sur.....Location.
James Dalgish-Morrow's No. 1 Peterson, NW cor., Sec. 82, Blk. E, H.E.&W.T.R.R., NE cor. of county in the H.E.&W.T.R.R. Sur.....T. D. 2,500 ft.; drlg.

FRIO COUNTY

Simms Oil Co.'s No. 1.....Location.
A. H. Wray's No. 1 Burns estate, 700 ft. N, 330 ft. E of C Sec. 123, Antone Hupzor.....T. D. 54 ft.; drlg.

GOLIAD COUNTY

Union Prod. Co.'s No. 12 George Ray, 2,350 ft. SW of NE line, 330 ft. NW of SE line, George A. Ray 400 ac. in the Wm. Southerland Sur.....T. D. 5,134 ft.; drlg.
A. G. Riemenschneider's No. 1 A. T. Fromme, 275 ft. from N line, 912 ft. W line of 300-ac. tract, P. Dexeter Sur.....T.D. 2,430 ft; standing.

GONZALES COUNTY

Mardon Oil Co.'s No. 1 Borrer, 150 ft. N and W in the James Stewart Sur., 5 miles NW from Waelder.....T.D. 1,850 ft; S.D.
Mardon Oil Co.'s No. 1 Robinson.....T.D. 3,018 ft; drlg. in sticky sand and shale.
Linden Pet. Corp.'s Uo. 1 Hensley, 650 ft. N line, 1,110 ft. W line of J. W. Hensley 100 ac. in the James Smith.....T.D. 2,448 ft; drlg. in bouldera.
Lake Oil Co.'s No. 1 A. V. Campbell.....Rigging up rotary tools.
United North & South Dev. Co.'s No. 2 Preston, 1,050 ft. NE, 450 ft. NW of upper S or SW cor. of Oethkin one-third league, 900 ft. SE of Prestin No. 1.....Location.
A. J. Keiffer et al's No. 1 B. B. Dix, 550 ft. W of E line, 2,775 ft. N of S line (Guadalupe River) in the Ira Nash Sur., 4 miles SE from Darst Creek.....T.D. 2,816 ft; hole cleaned; resumed drlg; now coring.
Finnell & Elam's No. 1 J. F. Robinson, 2,000 ft. N line, 4,420 ft. E line, in the J. H. Livergood, 2½ miles NE from Waelder.....T.D. 3,284 ft; S.D. for repairs.

GUADALUPE COUNTY

Guy Lewis' No. 1 Arno Link.....T. D. 847 ft.; rigging up.
Cranfill & Reynolds' No. 1 McIntire, 150 ft. to E line, 150 ft. to S line of 100-ac. tract in the A. Gibson Sur., 6 miles SE from Seguin.....T. D. 2,185 ft.; drlg. in Eagleford.
J. S. Suttle's No. 2 A. Baenzinger, 40 ft. E line, 150 ft. S line of tract in the A. O. Mansola Sur., 5½ miles S from Seguin.....Derrick.
Grayburg Oil Co.'s No. 2 Wells, 5,730 ft. E line, 2,490 ft. S line of NE cor. of Wells tract in the James D. Baume Sur., 9 miles SW from Darst Creek.....T. D. 1,020 ft.; drlg.
Cranfill & Reynolds' No. 1 Wilson, 150 ft. S line, 1,200 ft. to W line 92-ac. tract in the Jesus Canter Sur., 8 miles SE from Seguin.....Location.
Brown Hinds et al's No. 1 George Altzger, 1,300 ft. from SE line, 1,100 ft. from SW line of 120-ac. tract in A. Mansola Sur.....T.D. 1,975 ft; S.D. in Del Rio.

Ray Oil Co.'s No. 1 R. Felsing, 300 ft. NW line, 450 ft. NE line, 120-ac. tract in the M. Baker Sur. ..... T. D. 824 ft.; drlg; flowing sulphur water.

Miller & Calhoun's No. 1 Lindenberger, 750 ft. from E line, 650 ft. from S line of 250-ac. tract ..... T.D. 604 ft; drlg.

J. O. Dore's No. 1 Appling, 150 ft. to S and W lines of tract, H. Cottle Sur. ..... T. D. 2,315 ft.; drlg.

HAYS COUNTY

Bailey & Whittington's No. 1 Heidenrich ..... T.D. 735 ft.; shut down.

JACKSON COUNTY

The Texas Company's No. 1 Mitchell, 1,750 ft. E, 880 ft. N of SW cor. Ewing Sur. ..... T.D. 6,044 ft.; drlg. shale.

JIM HOGG COUNTY

Cole Petroleum Co.'s No. 1 Allen, 150 ft. from W line, 336 ft. from N line, Blk. 7, Sur. No. 23 ..... Location.

Wm. H. Barnhart's No. 1 McCampbell, 450 ft. to W line, 150 ft. to N line, Lot 33, Barnhart Subdivision, Los Viboritas grant ..... Derrick.

E. E. Watts' No. 1 Gomez, 4,200 ft. to N line, 1,400 ft. to E line of Survey 125 ..... Spudded.

JIM WELLS COUNTY

J. Walsh et al's No. 1 W. D. Wade, 1,035 ft. NE line, 300 ft. NW line of N cor., Lot 1, Blk. C, W. H. Bode Subd. ..... T.D. 210 ft.; set 10-in. surface csg.; waiting on cement.

KARNES COUNTY

Clayton & Pierce's No. 1 Barnett in the Alex Hunter Sur., 6 miles N of Karnes City ..... T.D. 2,916 ft.; steaming up to resume.

J. F. Morrissey et al's No. 1 Ragsdale, 660 ft. SW of C of NE line of 170-ac. farm in the McCouil Sur..... T.D. 1,380 ft.; resumed drlg. (corrected depth).

Dr. Hewitt's No. 1 W. E. Porter, 650 ft. from N line, 700 ft. from W line of 416-ac. tract in the Victor Blanco Sur., 8 miles SE from Runge ..... T.D. 2,700 ft.; drlg. in shale.

KENDALL COUNTY

Borgett et al's No. 1 Haag, W Avery Sur. ..... T.D. 940 ft.; drlg.

A. S. Mowinkle's No. 1 Kaston, 150 ft. from N line, 150 ft. from E line of tract, Sur. No. 724, 9 miles due W of Kendalia ..... T.D. 900 ft.; drlg.

Sitten et al's No. 1 Garvin, C of NE of D. L. Richardson Sur. in the D. L. Richardson Sur., 1 mile NE from Kendalia ..... T.D. 710 ft.; drlg.

Dickinson et al's No. 1 Edmondson, 150 ft. from S line, 350 ft. from W line of tract in the J. O. Blair No. 72 Sur., 1 mile NW from Kendalia ..... T.D. 40 ft.; spudded in and shut down.

Dixon Oil Co.'s No. 1 Ottmer Behr, W of H.T.&B.R.R. Sur., 3½ miles SE from Sisterdale ..... T.D. 1,790 ft.; drlg.

P. B. Stirling's No. 1 R. J. McCrocklin, 1,350 ft. from N line, 250 ft. from W line of the B. G. Owens Sur., 4 miles W from Kendalia ..... T.D. 553 ft.; drlg. in lime.

R. M. Perkins' No. 1 J. Lawhon, Sec. 10, 2,475 ft. E line, 1,488 ft. S line ..... T.D. 550 ft.; drlg.; have hauled out 800 ft. of 8-in. csg.

Permian Basin Oil Co.'s No. 1 Boles, S.A.&M.G. Ry. Sur. No. 542½ ..... Moving in machinery.

KERR COUNTY

Evans et al's No. 1 Love Ranch, 100 ft. from S line Sur. 1,597, 1,000 ft. E of W line of J. Martinez No. 1,594 Sur. ..... T.D. 700 ft.; setting 12½-in. csg.

KLEBERG COUNTY

Bowen & Sarles' No. 1 Robert, H. Simmons in the A. Houston Sur. No. 611, Sec. 7, King Subd., 150 ft. out of NW cor. of SW ..... T.D. 1,580 ft.; shut down; W.O.C.

KINNEY COUNTY

Magnolia Pet. Co.'s No. 1 Whitehead-Wardlaw, 2,640 ft. W line and S line of Meliton Valdez grant ..... T. D. 3,025 ft.; drlg. lime.

Mardon Oil Co.'s No. 2 Jim Clamp ..... T.D. 2,714 ft. in hard sand; coring.

A. Blume et al's No. 2 Herbst, 1,731 ft. W and S lines of Sur. in the Poindexter-Burns Sur. ..... T.D. 275 ft.; shut down.

KIMBLE COUNTY

Lindley Bros.' No. 1 Anderson, Sec. 178, Mubenger Sur... T.D. 990 ft.; shut down.

Dixie Oil Co.'s No. 1 Bodel, 900 ft. W of N line of Sec. 440, in Sec. 80, in the J. S. Patterson Sur. ..... Location.

C. L. Bryant et al's No. 1 Lambert, 7,700 ft. N and W lines of F. Lotta Sur. ..... T.D. 685 ft.; shut down.

LIVE OAK COUNTY

Catlett & O'Neil's No. 1 Pat Pugh, 620 ft. S line, 150 ft. E line of Pugh tract, Abstract 189, in the E. Games Sur. No. 253, 6 miles N from Dinero ..... Location.

Jacob. Buzzini & Pickett, Inc.'s No. 1 C. E. Kay, in the Bridgett Fadden Sur., 3 miles E from George West.. Location.

O. Stalley et al's No. 1 Nichols, 2,000 ft. from W line, 500 ft. from S line in the Ayers Sur. ..... Location.

Markley and others' No. 1 Reeves-Brown, 1,200 ft. to N line, 1,800 ft. to E of Ry., King Sur. ..... Derrick.

Illinois Exploration Synd.'s No. 1 Reeves-Brown, 1,300 ft. S. of Sellera tract, 1,800 ft. E of Ry. ..... Location.

Penn Oil Co.'s No. 1 Lyne, 900 ft. to W line, 330 ft. from S line of Sec. 69 on Devonian block ..... Location.

LEE COUNTY

Burt et al's (M. D. Rickett) No. 1 R. C. Sanders ..... T.D. 2,810 ft.; shut down in shale.

Fedor Oil Co.'s No. 1 Aug. Schimank ..... T.D. 2,247 ft.; tem. abandoned.

A. H. Wheeler and associates' No. 1 Fee, 14 miles NE from McDade, Blk. 47, Donohoe Sur. ..... T. D. 500 ft.; coring.

J. P. Perry and others' No. 1 W. H. Thomas ..... T.D. 20 ft.; spudded.

McMULLEN COUNTY

Mogul Pet. Co.'s No. 1 Martin, 150 ft. NW line, 150 ft. to SW line of E. Melon No. 212 Sur. ..... Spudded in.

MAVERICK COUNTY

Rycade Oil Corp.'s No. 6 Chittim, 1,445 ft. from S, 320 ft. from W of Sec. 116, Blk. 7, I.&G.N. Sur. ..... T.D. 3,474 ft.; W.O.C.

Rycade Oil Corp.'s No. 5 Chittim, 600 ft. W of No. 3 Chittim, 500 ft. E line, 225 ft. from S line of SE Sec. 115, Blk. 7, in the I.&G.N. Sur. ..... T.D. 4,675 ft.; drlg.

Rycade Oil Corp.'s No. 5 Sullivan, in C of Sec. 82, Blk. 7, in the I.&G.N. Sur. ..... T.D. 6,868 ft.; bldg. bridge off bottom.

MEDINA COUNTY

Pat Armstrong's No. 1 C. W. Butts, in George C. Hanson Sur. ..... T. D. 1,970 ft.; topped chalk.

B. F. Newhaus et al's No. 1 Fusselman, 200 ft. E and S lines of tract (320-ac.) in the M. Castro Sur. .... T. D. 1,715 ft.; drlg. in Georgetown.

Pan American Dev. Co.'s No. 1 Antonio Hart, in Harrison Sur. No. 799, 15 miles S from Hondo ..... T. D. 2,234 ft.; abd., dry; T. E. 2,180 ft.

National Oil Co.'s No. 1 Howard, 1,750 ft. E of W line, 1,854 ft. N of S line of survey in the John George Sur. No. 9, 10 miles S of Dunlay ..... T. D. 1,645 ft.; to drill plug this week.

Caldwell et al's No. 1 L. W. Burrell ..... T.D. 2,167 ft.; drlg.

Donaldson Oil & Dev. Co.'s No. 2 Hillenmeyer, James Hillenmeyer No. 25 Sur., 500 ft. to E line of survey, 150 ft. to S line of N half of survey ..... T.D. 200 ft.; shut down.

Pat Armstrong's No. 1 Crawford, 1,389 ft. N line, 2,550 ft. E line of survey, 478.6 miles W of Devine..... T.D. 1,820 ft.; drlg. shale.

Lyuko Co.'s No. 1 Medina Valley Irrigation, 2,800 ft. to S line, 2,250 ft. to E line of E. Reisacher Sur. No. 509. T. D. 500 ft.; drlg.

MILAM COUNTY

Rheubotham & Tate's No. 1 Johnson, 325 ft. from N line, 250 ft. from W line of 40-ac. tract, D. Robinson Sur. ..... Derrick.

Kyser, Roberts & Rubble's No. 2 Mrs. V. Ward, 2,500 ft. to NW line, 6,150 ft. to SW line of Levi Taylor Sur. ..... Location.

NUECES COUNTY

Independent Oil & Gas Co.'s No. 1 Baldwin, 330 ft. each way out of NE of the J. C. Russell Subd., Blk 11, 3 miles W from Corpus Christi ..... T. D. 3,390 ft.; drlg. gumbo.

R. A. Thompson et al's No. 2 Lawrence-Harrell, 300 ft. from N and E lines of Blk. 19 ..... T.D. 1,659 ft.; estimated 20,000,000 ft. of gas.

Houston Oil Co.'s No. 1 Morgan, 105 ft. N of C of tract.. Laying water line.

REAL COUNTY

McGinley Corp.'s No. 1 Haby, C of SW, Sec. 175 ..... Location.

SAN PATRICIO COUNTY

Magnolia Pet. Co.'s No. 1 Freeman, 660 ft. S and W lines of NW half of 80-ac. tract, Sec. 57, in the E. J. McGloin Sur. ..... T.D. 5,526 ft.; previously reported as completed; now rigged up to drill deeper.

George B. Pickett's No. 1 Baldwin, 9,000 varas due E of Denton, 1,200 ft. S of the SE cor. of O'Neil's Sur., Abstract 211 ..... T.D. 4,012 ft.; moving in heavy rig to go to 6,000 ft.

J. L. Kennedy's No. 1 McRae, 1,170 ft. NW of the center of the SE line of 500-ac. tract ..... Building derrick.

Saxet Oil Co.'s No. 1 Carroll, 800 ft. N line, 130 ft. to W line, Lot 32-A, Sec. 32 of the fourth subd., Taft farms ..... Moving in tools.

Union Prod. Co.'s No. 4 Welder, 3,000 ft. N line, 4,500 ft. E line of tract in the E. Portillo Sur. ..... Spudded.

G. B. Peterman et al's No. 1 Crow, 150 ft. from S line, 170 ft. from W line of Sec. 24 of the Fulton-Coleman Pasture Lands, J. H. Paul Subd. ..... T. D. 750 ft.; W.O.C.

G. B. Peterman et al's No. 1 Foster, 150 ft. from E line, 1,420 ft. from N line of Blk. 5 of the Welder-Coleman-Fulton Subd., 3½ miles W from Sinton..... Location.

Cosden Oil Co.'s No. 1 Schmolsteig, C of SE, Sec. 9, H. Powell Subd. in the B. Blanchard Sur. ..... T. D. 4,237 ft.; cored salt water sand.

LaFeria Oil & Gas Co.'s No. 1 C. C. Smith, in J. C. White Sur., 690 ft. to N line, 350 ft. to E line ..... T.D. 3,933 ft.; S.D. for fuel.

STARR COUNTY

I. V. Maclean's No. 1, Tract No. 5, 1,063-ac. Porcion 81, Juan Jose de la Garza in the Falcon grant ..... T.D. 150 ft.; drlg.

Kush Exptn. Co.'s No. 1 Kelsey-Bass, 150 ft. to W line, 750 ft. to N line, Por. 75, Blk. 9 ..... T.D. 400 ft.; drlg.

J. L. Smith's No. 1 Welch, Perdernal Sur. ..... T.D. 925 ft.; show gas in sand.

Virginia Oil Co.'s No. 1 Kelsey-Bass, 150 ft. to S line, 1,850 ft. to W line, Blk. 6, Por. 75, Courargo ..... Location.

TRAVIS COUNTY

Fox Oil Co.'s No. 1 W. Fuchs ..... T. D. 1,012 ft.; shut down.

UVALDE COUNTY

E. Anglin et al's No. 1 U.P.P., 1,500 ft. from NW line 7,450 ft. to NE line of Manual Leal Sur., 10 miles SE from Uvalde ..... T.D. 1,194 ft.; drlg. in lime.

Waldrop & Welch's No. 1 E. R. Edmonds, 1,750 ft. NW, 7,200 ft. W of Sec. 71, in the A. Gomez Sur., 8 miles S of Uvalde ..... T.D. 1,193 ft.; moving in heavier rig.

Phantom Oil Co.'s No. 1 Claudt, Sec. 611 ..... T.D. 2,450 ft.; fishing.

VICTORIA COUNTY

The Texas Co.'s No. 1 A. M. McFadden, 1,550 ft. N and E lines of H. Bonny Sur. ..... T. D. 2,504 ft. (cor.); drlg.

WEBB COUNTY

J. L. Elliott's No. 1 Esperanza Land & Stock Co., 950 ft. from N line, 2,231 ft. E line, Sur. 815 ..... T. D. 1,980 ft.; standing.

O. W. Killam's No. 1 Slator, 800 ft. to NW line, 300 ft. to SW line, Blk. 70, Slator pasture, Borrego grant... Spudded.

WILLIAMSON COUNTY

Texas Oil & Gas Development Co.'s No. 1 Gervert & Allison, 9 miles NE from Taylor ..... T. D. 40 ft.; shut down.

ZAPATA COUNTY

T. H. Ward's No. 1 Uribe, 150 ft. NW line, 150 ft. SW line, Blk. 8 Subd., Share 7, Partition No. 6, T. Uribe Partition of Jose V. Borrego Sur. ..... Rigging up.

B. F. Nixon's No. 1 A. Gutierrez, 170 ft. S line, 332 ft. E line, Lot 5, Blk. 8, Partition 10, Borrego grant.... T.D. 50 ft.; standing.

Penny Prod. Co.'s No. 1 Juan V. Cuellar, Jr., et al, 175 ft. NE line, 175 ft. SE line Poppas Subd., Porcion 33 and 34, Blk. 1, Sur. 2 ..... T. D. 250 ft.; drlg.

Penny Prod. Co.'s No. 1 Trevino, 300 ft. SE line, 200 ft. NE line Marts & Beavers Subd. of Porcion 2 and 3, Blk. 6, Sur. 4 ..... T.D. 757 ft.; moving in heavier rig.

National Oil Co.'s No. 1 D. B. Adams ..... T. D. 1,185 ft.; lost hole; will skid derrick north.

F. M. Blair & Son's No. 1 Guiterrez, 150 ft. from NW line, 660 ft. from SW line, Blk. 2, Blair Subd., Comitas grant ..... Riggings up.

Lincoln Oil & Gas Co.'s No. 1 Gutierrez, Blk. 23, Subd., La Huerta grant ..... Rigging up.

ZAVALA COUNTY

Krebs & Davis' No. 1 Weatherby, E center of NW of Sec. 44, Blk. A, Adams, Beaty & Mouton Sur., 4 miles E from Loma Vista ..... T.D. 1,782 ft.; drlg.

Ed Anglin's No. 5 Pryor ..... T.D. 1,034 ft.; drlg., (cor. depth).

Texas Gas Utilities Co.'s No. 1 Ike T. Pryor, Jr. ..... T.D. 1,124 ft.; set 6⅝-in. casing.

GULF COAST FIELDS AND WILDCATS

(Continued from Page 58)

Sun Oil Co.'s No. 1 Zadie Fisher, southwest ..... Drlg. sand and lime 3,160 ft.

Sun Oil Co.'s No. 1 O. K. Winfree, west ..... Set 5½ joints screen 5,328 ft.; comp. flowing 1,000 bbls. oil.

The Texas Company's No. 4 Wilburn, southeast ..... Total depth 5,149 ft.; to pump.

The Texas Company's No. 1 Williams, southwest ..... Drlg. gumbo 2,814 ft.

The Texas Company's No. 1 Winfree, west ..... Rig.

Yount Lee Oil Co.'s No. 1 Fisher (workover) ..... Rig up to deepen 6,660 ft.

Yount Lee Oil Co.'s No. 1 Hindman, southwest ..... Drlg. hard lime 4,066 ft.

Yount Lee Oil Co.'s No. 15 Chambers, south ..... Drlg. hard sand 3,504 ft.

Yount Lee Oil Co.'s No. 3 Fisher, southeast ..... Drlg. hard lime 3,595 ft.

Yount Lee Oil Co.'s No. 5 Phillips, southwest ..... Drlg. gumbo 486 ft.

Yount Lee Oil Co.'s No. 8 Woodward, southeast ..... Set 5 joints screen; comp. flowing 140 bbls. 5,186 ft.

Yount Lee Oil Co.'s No. 9 Woodward, southeast ..... Rig.

RACCOON BEND—AUSTIN COUNTY

Humble & Valley's No. 9 Thompson ..... Drlg. shale and lime 2,090 ft.

Humble & Valley's No. 10 Thompson ..... Drlg. shale 3,376 ft.

Humble & Valley's No. 1 Fritz Lamp ..... Drlg. sticky shale 931 ft.

Humble & Valley's No. 3 Buchanan ..... Derrick.

Humble & Valley's No. 3 Diemar ..... Derrick.

Humble & Valley's No. 7 Payne ..... Derrick.

Humble & Valley's No. 8 Payne ..... Derrick.

Humble & Valley's No. 10 Payne ..... Rig.

Humble & Valley's No. 6 Woodley ..... Derrick.

Humble & Valley's No. 7 Woodley ..... Derrick.

Humble & Valley's No. 8 Woodley ..... Derrick.

Humble & Valley's No. 9 Woodley ..... Derrick.

Humble Oil & Ref. Co.'s No. 1 Hugo-Hagen ..... Location.

DE WALT—FORT BEND COUNTY

Humble Oil & Ref. Co.'s No. 6 Camp ..... Drlg. shale 3,614 ft.

HUMBLE—HARRIS COUNTY

Cullen & West's No. 3 Burt, east ..... Location.

John Deering's No. 1 Graf ..... No report.

LaRue, trustee's No. 1 Crane, northwest ..... Derrick.

Rio Bravo Oil Co.'s No. 4 fee, southwest ..... Comp. flowing 600 bbls. 3,890 ft.

Rio Bravo Oil Co.'s No. 5 fee, west ..... Drlg. shale 3,492 ft.

Rio Bravo Oil Co.'s No. 6 fee, west ..... Drlg. gumbo and lime 3,139 ft.

Rio Bravo Oil Co.'s No. 7 fee, west ..... Derrick.
Rio Bravo Oil Co.'s No. 1 H.&W.T., west ..... Set 4½-in. casing and screen 4,306 ft.
South Texas Pet. Co.'s No. 15 Morris, south ..... Comp. flowing 400 bbls. 4,340 ft.
South Texas Pet. Co.'s No. 2 Burt (workover) ..... Comp. flowing 500 bbls. 4,855 ft.
Sun Oil Co.'s No. 10 Bender, west ..... Set 59-ft. screen 4,430 ft.; comp. flowing 1,550 bbls. oil.
Sun Oil Co.'s No. 11 Bender, west ..... Drlg. shale 3,724 ft.
Sun Oil Co.'s No. 12 Bender, west ..... Set 47-ft. screen 4,063 ft.; comp. flowing 1,000 bbls. oil.
Sun Oil Co.'s No. 13 Bender, west ..... Started drilling.
Sun Oil Co.'s No. 14 Bender, west ..... Rig.
Sun Oil Co.'s No. 15 Bender, west ..... Location.
Sun Oil Co.'s No. 16 Bender, west ..... Location.
Sun Oil Co.'s No. 49 River, north ..... Total depth 4,486 ft.; strengthening hole.
Trapshooter Riley's No. 1 Long John Jones ..... No report.
The Texas Company's No. 2 Atlantic & Gulf, east ..... Drlg. gumbo and boulders 97 ft.
The Texas Company's No. 1-B fee ..... Rig.
The Texas Company's No. 1 fee ..... Comp. flowing 128 bbls. ⅛-inch choke 4,008 ft.
The Texas Company's No. 25 House, northeast ..... Rig.
The Texas Company's No. 43 Stevenson, east ..... Location.
The Texas Company's No. 23 Wheeler and Pickens, northeast ..... Abandoned 5,641 ft.
West Production Co.'s No. 3 Foster, north ..... No report.

BLUE RIDGE—FORT BEND COUNTY

Gulf Production Co.'s No. 18 Luscher, south ..... Drlg. sand and shale 4,174 ft.

PIERCE JUNCTION—HARRIS COUNTY

Gulf Production Co.'s No. 1 Manchester Corp. ..... Drlg. hard sand 3,364 ft.
Rio Bravo Oil Co.'s No. 14-A Settegast ..... To work over.
Rio Bravo Oil Co.'s No. 20-A Settegast ..... Drlg. gumbo 1,425 ft.
Saxet Oil Co.'s No. 8 Herman estate ..... Drilling.

LIBERTY—LIBERTY COUNTY

Empire Gas & Fuel Co.'s No. 13 O'Brien ..... Coring 4,100 ft.
The Texas Company's No. 7 Green, northwest ..... Drlg. hard lime and broken shale 4,477 ft.

BIG CREEK—FORT BEND COUNTY

Gulf Production Co.'s No. 59 Davis ..... Comp. flowing 100 bbls. oil 3,675 ft.
Navarro Oil Co.'s No. 5 Davis ..... Rig.

LOST LAKE—CHAMBERS COUNTY

Pure Oil Co.'s No. 5 Lost Lake ..... Drlg. hard sand and lime 4,276 ft.

NASH—BRAZORIA COUNTY

Rycade Oil Corp.'s No. 27 Wisdom ..... Drlg. sandy lime 4,386 ft.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 93-A Cotton ..... Bailing 551 ft.

GOOSE CREEK—HARRIS COUNTY

Humble Oil & Ref. Co.'s No. 78 Simms-Smith ..... Drlg. sand 4,366 ft.

SPINDLETOP—JEFFERSON COUNTY

Yount Lee Oil Co.'s No. 138 McFaddin ..... No report.
Yount Lee Oil Co.'s No. 139 McFaddin ..... No report.
Yount Lee Oil Co.'s No. 140 McFaddin ..... Abandoned in heaving shale 4,086 ft.

NORTH DAYTON—LIBERTY COUNTY

Victor Oil Co.'s (V. H. Borsodi) No. 2 Gulf ..... Drlg. sticky shale 4,717 ft.
Saxet Oil Co.'s No. 1 Davis, north ..... Abandoned in salt 3,860 ft.
Saxet Oil Co.'s No. 3 Wilhite ..... Drlg. hard sand 2,693 ft.
Harrison Oil Co.'s No. 1 Gulf fee ..... Drlg. gumbo 3,104 ft.
Harrison Oil Co.'s No. 1 Jones ..... Location.

HIGH ISLAND—GALVESTON COUNTY

Gulf Production Co.'s No. 10 Smith ..... Drlg. hard sand 4,556 ft.
Marrs McLean's No. 18 Cade ..... Total depth 4,177 ft.; side tracking in lime rock 2,667 ft.
Marrs McLean's No. 19 Cade ..... Rig.

ORCHARD—FORT BEND COUNTY

Gulf Production Co.'s No. 25 Moore ..... Rig.
Gulf Production Co.'s No. 26 Moore ..... Rig.

HULL—LIBERTY COUNTY

The Texas Company's No. 2 Barrow ..... Comp. flowing 625 bbls. oil 3,860 ft.

PORT NECHES—ORANGE COUNTY

Gulf Production Co.'s No. 1 W. H. Starks ..... Drlg. sand and shale 5,572 ft.
The Texas Company's No. 2 Stark ..... Pulling screen to deepen 4,598 ft.

CLAY CREEK—WASHINGTON COUNTY

Sun Oil Co.'s No. 5 Hunt ..... Rig.
Sun Oil Co.'s No. 4 Janner ..... Reaming 2,679 ft.

ESPERSON—LIBERTY COUNTY

Cranfill-Reynolds Oil Co.'s No. 5 Davis ..... Drlg. gumbo 2,180 ft.
Cranfill-Reynolds Oil Co.'s No. 11 Esperson ..... Pulling screen to deepen 2,244 ft.
Cranfill-Reynolds Oil Co.'s No. 15 Esperson ..... Comp. pumping 200 bbls. oil 3,298 ft.
Cranfill-Reynolds Oil Co.'s No. 16 Esperson ..... Drlg. rock 959 ft.
Cranfill-Reynolds Oil Co.'s No. 17 Esperson ..... Rigging up.
Cranfill-Reynolds Oil Co.'s No. 4 Moores Bluff ..... Drlg. sand and boulders 1,245 ft.
Yount Lee Oil Co.'s No. 3 Moores Bluff ..... Drlg. hard shale 7,506 ft.

HANKAMER—LIBERTY COUNTY

Gulf Production Co.'s No. 1 Ezzell ..... Oil sand 3,832 ft.

WEST COLUMBIA—BRAZORIA COUNTY

Anderson et al's No. 1 Smith & Brooks ..... Rigging up to pump.

ORANGE—ORANGE COUNTY

Sun Oil Co.'s No. 7 Gunstream ..... No report.

BOLING—WHARTON COUNTY

C. S. Thomas' No. 1 Volney ..... Shut down 235 ft.
C. S. Thomas' No. 1 Taylor ..... Shut down for repairs 1,319 ft.

REFUGIO—REFUGIO COUNTY

Houston Oil Co.'s No. 1 Rooke ..... Drlg. hard shale 3,221 ft.
Houston Oil Co.'s No. 1 City, Block 59 ..... Coring shale 5,660 ft.
Houston Oil Co.'s No. 1 O'Connor ..... Drlg. shale and lime 4,008 ft.
Houston Oil Co.'s No. 1 West ..... Oil sand 6,381-97 ft.; set 6⅝-in. casing.
Houston Oil Co.'s No. 1 Rose Lambert ..... Oil sand 5,917-22 ft.; set screen.
Houston Oil Co.'s No. 2 Rose Lambert ..... Oil sand 5,890 ft.; set 6⅝-in. casing 5,883 ft.
Houston Oil Co.'s No. 7 Fannie Heard (workover) ..... Total depth 3,718 ft.; plugged to 3,680 ft.
Houston Oil Co.'s No. 1 Johnson, Block 63 ..... Drlg. gumbo and lime 5,014 ft.
Independent Oil Gas Co.'s No. 1 Rose Lambert ..... Drlg. salt water sand 3,612 ft.
Independent Oil & Gas Co.'s No. 6 Jerry Reilly (workover) ..... Coring oil sand 6,465 ft.
Edwin M. Jones' No. 3-A J. F. B. Heard ..... Comp. flowing 125 bbls. 3,649 ft.
Edwin M. Jones' No. 8-A J. F. B. Heard ..... Location.
Luling Oil & Gas Co.'s No. 1 J. W. Kay ..... Drlg. sticky shale 4,031 ft.
Luling Oil & Gas Co.'s No. 1 West ..... Drlg. shale and lime 2,630 ft.
Mission Drilling Co.'s No. 1 Moss-Heard, Blk. 11 ..... Drlg. sandy lime and shale 4,850 ft.
Mission Drilling Co.'s No. 1 O'Brien (workover) ..... Standing 5,471 ft.
Moody-Seagraves Prod. Co.'s No. 2 O'Brien ..... Oil sand 5,690-95 ft.; cem. 6¼-in casing.
Mission Drilling Co.'s No. 1 Joe Shay, Block 6 ..... To deepen.
Moody-Seagraves Prod. Co.'s No. 1 Linney ..... Location.
Moody-Seagraves Prod. Co.'s No. 1-A O'Brien ..... Derrick.
Moody-Seagraves Prod. Co.'s No. 3 O'Brien ..... Derrick.
Moody-Seagraves Prod. Co.'s No. 1 Strauch, Block 64 ... Comp. flowing 160 bbls. 5,629 ft.
Moody-Seagraves Prod. Co.'s No. 1-A St. John ..... Sticky shale 1,455 ft.; temporarily shut down.
Moody-Seagraves Prod. Co.'s No. 1 Townsite ..... Location.
Morgan Oil Corp.'s No. 2 O'Connor ..... Cem. casing 6,454 ft.
Pearson Properties, Inc.'s No. 1 Hornburg ..... Derrick.
Pearson Proptrties, Inc.'s No. 3 Ryals ..... Drlg. shale and lime 4,766 ft.
Pittsburg Refugio Oil Co.'s No. 2 Terrell ..... Drlg. sticky shale 2,529 ft.
Ed Price's No. 1 Mission River ..... Comp. pumping 105 bbls. 3,663 ft.
Saxet Oil Co.'s No. 13 Clint Heard ..... Sand 6,386 ft.; cem. 5 3/16-in. casing 6,372 ft.
Saxet Oil Co.'s No. 1 Kay ..... Repairing rig.
Saxet Oil Co.'s No. 2 Ryals (workover) ..... Drlg. sandy lime 6,376 ft.
Saxet Oil Co.'s No. 3 Ryals ..... Drlg. gumbo and lime 5,324 ft.
Stroube & Stroube's No. 1 City, Lot 15, Blk. 4 ..... Oil sand 3,682-90 ft.; cem. 6⅝-in. casing 3,682 ft.
C. A. Tucker's No. 1 Empson ..... Drlg. sand 3,672-75 ft.
Union Producing Co.'s No. 6 O'Brien ..... Derrick.
Union Producing Co.'s No. 5 Powers ..... Location.
Union Producing Co.'s No. 5 Mitchell ..... Rig.
Union Producing Co.'s No. 2 Eskridge-Heard ..... Swabbing 3,684 ft.

SOUTH LOUISIANA FIELDS
LOCKPORT—CALCASIEU PARISH

Union Sulphur Co.'s No. 2 Moss ..... Tested salt water 5,055 ft.; pulled screen; standing.
Union Sulphur Co.'s No. 1 Martha Moss ..... Drlg. gumbo 5,250 ft.
Vacuum Oil Co. and Gulf Ref. Co.'s No. 28 Miller ..... Oil sand 4,403 ft.; cem. 9⅝-in casing.
Vacuum Oil Co.and Gulf Ref. Co.'s No. 29 Miller ..... Rig.
Vacuum Oil Co.'s No. 6 Bayou State ..... Drlg. sand 1,637 ft.
Yount Lee Oil Co.'s No. 1 Miller ..... Drlg. gumbo 6,256 ft.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 20 Watkins ..... No report.
Calcasieu Oil Co.'s No. 6 Caldwell ..... No report.
Duhon Oil Mineral Co.'s No. 1 Koonce ..... Shut down 140 ft.
Federal Petroleum Co.'s No. 1 Hebert ..... Broken lime and shale 6,359 ft
The Texas Company's No. 7 State ..... Drlg. gumbo 3,255 ft.
Yount Lee Oil Co.'s No. 31 State ..... Drlg. 2,001 ft.
Yount Lee Oil Co.'s No. 2 Portia ..... Drlg. 1,210 ft.

JENNINGS—ACADIA PARISH

Eunice Oil Co.'s No. 2 Crowley, west ..... No report.
Kathleen Oil Co.'s No. 2 Syndicate Clements ..... Location.
Yount Lee Oil Co.'s No. 9 Housierre Latrielle ..... Sandy shale 6,896 ft.; set 7-in casing.
Yount Lee Oil Co.'s No. 7 Crowley ..... Drlg. gumbo 2,056 ft.

VINTON—CALCASIEU PARISH

Gulf Refining Co.'s No. 4 Gardner ..... Drlg. sandy shale 3,295 ft.
Marrs-McLean's No. 11 Gray ..... Coring 1,902 ft.
Supreme Oil Co.'s No. 2 Gray ..... Drlg. sand and boulders 2,812 ft
Vinton Petroleum Co.'s No. 3 Gray (workover) ..... Comp. flowing 200 bbls. 3,310 ft
Vinton Petroleum Co.'s No. 9 Gray ..... Drlg. gumbo 800 ft.
Wilson-Broach's No. 4 Wilson ..... Drlg. gumbo 2,521 ft.

BAYOU BOUILLON—ST. MARTIN PARISH

Rycade Oil Corp.'s No. 5 Atchafalaya (workover) ..... Pulling screen to deepen.
Rycade Oil Corp.'s No. 1 Woodyard Lake ..... Fishing 5,414 ft.
Rycade Oil Corp.'s No. 4 State ..... Building derrick.

STARKS—CALCASIEU PARISH

Adams Oil Co.'s No. 1 Roderick ..... No report.
J. O. Davis' No. 1 Industrial ..... Standing 3,775 ft.
Gulf Refining Co.'s No. 24 Lutcher-Moore ..... Comp. flowing 420 bbls. oil 1,180 ft.
J. G. Sutton et al's No. 1 Industrial ..... Drlg. 656 ft.

SWEET LAKE—CAMERON PARISH

Magnolia Petroleum Co.'s No. 1 Sweet Lake ..... Drlg. shale 5,576 ft.

ANSE LA BUTTE—ST. MARTIN PARISH

Yount Lee Oil Co.'s No. 2 Herbert ..... Abandoned in salt 6,219 ft.

PORT BARRE—ST. LANDRY PARISH

Pure Oil Co.'s No. 1 Perkins ..... Abandoned in salt 3,825 ft.

EDGERLY—CALCASIEU PARISH

Associated Oil Co.'s No. 5 Paraffine ..... Total depth 3,070 ft.; cem. 6⅝-in casing 3,050 ft.
Rex Petroleum Co.'s No. 12 Hunter ..... No report.

MISCELLANEOUS WILDCATS
TEXAS
BRAZORIA COUNTY

The Texas Company's No. 1 Ewin, Harvey Little Sur. ... Drlg. sticky shale 6,748 ft.
Mills Bennett Production Co.'s No. 1 Random, Allen .... Total depth 5,363 ft.; standing
Mills Bennett Production Co.'s No. 1 Reese, Allen ..... Drlg. shale and lime 3,587 ft.
Mills Bennett Production Co.'s No. 1 Poole, Allen ..... Drlg. anhydrite 2,080 ft.
Mills Bennett Production Co.'s No. 2 Allen ..... Drlg. sand and boulders 1,779 ft
Faust et al's No. 5 Faust ..... Drlg. shale and lime 4,906 ft.
Freeport Sulphur Co.'s No. 2,001 fee, Bryan Heights .... Drlg. hard sand 2,682 ft.
Layne et al's No. 7 Wisdom, Damond Mound ..... Rig.
Rucks & Patterson's No. 1 Hunter, southwest of Hoskins.. Total depth 1,180 ft.; sidetracked to rock 968 ft.; shut down.
Rycade Oil Corp.'s No. 1 Seaburn, Stratton Ridge ..... Drlg. shale and lime 2,158 ft.
Rycade Oil Corp. and Vacuum Oil Co.'s No. 1 Wisdom, Lake Jackson ..... Rig.
Shell Petroleum Corp.'s No. 4 Blakely-Danbury ..... Shale and lime 1,852 ft.; to set 9⅝-in. casing.
Steel & Strickland's No. 1 Lockridge ..... Spudded and shut down.
United Oil Syndicate's No. 1 Moores, Francis Moore Sur.. Shut down 1,462 ft.

CALHOUN COUNTY

The Texas Company's No. 1 Thomas, J. P. Tilley Sur. .... Drlg. sticky shale 4,722 ft.

CHAMBERS COUNTY

Chicago Oil Corp.'s No. 1 Lawrence ..... Total depth 3,948 ft.; cemented casing.
Shell Petroleum Corp.'s No. 2 Herff, Moss Bluff ..... Location.
Pure Oil Co.'s No. 1 J. H. K. Ranch, Oyster Bayou ..... Total depth 4,367 ft.; reaming.
The Texas Company's No. 1 Jackson, T.&N.O. Sur., Sec. 17 ..... Drlg. sticky shale 4,446 ft.

GRIMES COUNTY

Deering et al's No. 1 Munker, Darius Gregg Sur. ..... Spudded.
Deering & Noble's No. 1 Templeman, 6 miles south Navasota ..... Drlg. shale 2,828 ft.

HARDIN COUNTY

D. O. Speights' No. 1 fee, near Batson ..... Drlg. shale and lime 2,761 ft.

HARRIS COUNTY

Baldwin and associates' No. 1 Kitzman, Cypress ..... Shut down 4,247 ft.
Gulf States Oil Co.'s No. 1 Angsperger ..... Shut down 559 ft.
Humble Oil & Ref. Co.'s No. 8 Warren, Hockley ..... Drlg. hard sand and lime 1,840 ft.
Humble Oil & Ref. Co.'s No. 2 Minnetex, Mykawa .... Drlg. hard lime 3,938 ft.
Mission Drilling Co.'s No. 2 Cook, H. A. Read Sur. ..... Rig.

JACKSON COUNTY

Jackson County Oil Syndicate's No. 8 Drushell, Edna ... Gas sand 3,780 ft.
Jackson County Oil Syndicate's No. 2 Lee ..... Drlg. 3,205 ft.
The Texas Company's No. 1 C. A. Mitchell, G. Ewing Sur. ..... Abandoned 6,261 ft.

JEFFERSON COUNTY

Deep Test Oil Co.'s No. 1 McFaddin, Chaisson Sur. ..... No report.
Westbury Oil Co.'s No. 1 West, Choate Sur. ..... Drlg. gumbo 4,112 ft.

LIBERTY COUNTY

Gulf Production Co.'s No. 2 McFaddin, Moss Bluff ..... Drlg. rock 3,831 ft.
Humble Oil & Ref. Co.'s No. 1 Breeding, Moss Bluff .... Derrick.
Humble Oil & Ref. Co.'s No. 1 Orlando Hylton, Moss Bluff ..... Rig.
Humble Oil & Ref. Co.'s No. 1 Sergent, Moss Bluff ..... Location.
Rycade Oil Corp.'s No. 1 Heiskell ..... Derrick.
Shell Petroleum Corp.'s No. 2 Herff ..... Rig.
Tucker et al's No. 1 Bell, Devers ..... Derrick.

MATAGORDA COUNTY

Empire Gas & Fuel Co.'s No. 1 Boker, Citrus Grove ..... Drlg. hard shale and lime 3,190 ft.

MONTGOMERY COUNTY

Price & Whitehead's No. 2 Guerges ..... No report.

REFUGIO COUNTY

Blanco Oil Co.'s No. 1 Dorman ..... Shut down 3,120 ft.

VICTORIA COUNTY

Houston Oil Co.'s No. 1 McFaddin, C. O. Edwards Sur.... Cem. 12½-in. casing 1,160 ft.
The Texas Company's No. 1 McFaddin, H. Bonny Sur. ... Drlg. sand 3,594 ft.
Lion Oil & Ref. Co.'s No. 2 McFaddin, M. Traviers Sur... Coring gas sand 4,103 ft.
Newton et al's No. 1 West ..... Shut down 1,550 ft.

WALKER COUNTY

Texas State Oil Co.'s No. 2 Foils, H.&T.C. Sur., Abstract 287 ..... Drlg. gumbo 2,980 ft.

WALLER COUNTY

W. P. Morris' No. 1 Chapman, Donoho Sur. ..... Shut down 3,234 ft.

WASHINGTON COUNTY

W. Birdwell's No. 1 Schram, James Walker Sur. ..... Shut down 2,110 ft.
Clifton et al's No. 1 Pruiss, E. Alcorn Sur. ..... Shut down 1,610 ft.

SOUTH LOUISIANA
ACADIA PARISH

Charles P. Siess' No. 1 Roller, Sec. 8-9s-1e ..... Drlg. sand and shell 4,630 ft.

CALCASIEU PARISH

Wilfred Lahay's No. 1 J. J. Jardell ..... Location.
Wilfred Lahay's No. 2 James ..... Standing 3,970 ft.

CAMERON PARISH

Shell Petroleum Corp.'s No. 15 Watkins, Black Bayou ... Rig.
Shell Petroleum Corp.'s No. 1 State, Black Bayou ..... Drlg. sandy shale and lime 3,863 ft.
Vacuum Oil Co.'s No. 1 Cameron Meadows, Sec. 21-14s-13w ..... Drlg. sandy lime rock 4,479 ft.
The Texas Company's No. 6 State, Calcasieu Lake ..... Rigging up.

IBERIA PARISH

Lake Oil Co.'s No. 1 Ben White, Sec. 54-12s-7e ..... Drlg. shale 2,636 ft.
Jefferson Lake Oil Co.'s No. 7 Lake Peigneur, Jefferson Lake ..... Abandoned in cap rock 859 ft.
Jefferson Lake Oil Co.'s No. 8 Lake Peigneur, Jefferson Lake ..... Abandoned in cap rock 758 ft.
Jefferson Oil Co.'s No. 9 Lake Peigneur, Jefferson Island.. Location.
Jefferson Oil Co.'s No. 10 Lake Peigneur, Jefferson Island ..... Location.
The Texas Company's No. 5 Vermillion Bay ..... Drlg. gumbo 6,263 ft.

IBERVILLE PARISH

Shell Petroleum Corp.'s No. 5 Wilbert, White Castle .... Drlg. hard sandy lime 4,291 ft.
Standard Oil Co.'s No. 5 Wilbert, Bayou Blue ..... No report.
Standard Oil Co.'s No. 7 Wilbert ..... Derrick.
Standard Oil Co.'s No. 8 Wilbert ..... Drlg. 2,687 ft.
Standard Oil Co.'s No. 1 E. B. and S. P. Schwing, Bayou Blue ..... Drilling.
Standard Oil Co.'s No. 1 Balst Cooperage, Bayou Blue .. Rig.
Standard Oil Co.'s No. 2 Case, Bayou Des Glaise ..... Location.

JEFFERSON PARISH

Humble Oil & Ref. Co.'s No. 1 Delaware, Sec. 2-16s-23e.. Drlg. shale 2,911 ft.

JEFFERSON DAVIS PARISH

Shell Petroleum Corp.'s No. 1 Heyd, Iowa ..... Location.
Vacuum Oil Co.'s No. 1-A DeVilbiss, Roanoke ..... Rig.

LAFAYETTE PARISH

Pure Oil Co.'s No. 1 Marmetin, Carenero ..... Drlg. sand and shale 6,161 ft.

LA FOURCHE PARISH

The Texas Company's No. 1 Leesville ..... Abandoned 5,448 ft.

PLAQUEMINE PARISH

Humble Oil & Ref. Co.'s No. 2 Cockrell-Moran, Lake Grand Ecaille ..... Moving in material.
Humble Oil & Ref. Co.'s No. 3 Cockrell, Lake Grand Ecaille ..... Cap rock 1,525-44 ft.; drill stem stuck.
The Texas Company's No. 4 State, Garden Island ..... No report.

ST. LANDRY PARISH

Herbert-Baker Oil Co.'s No. 1 Fisher, Sec. 28-3... Fishing 4,378 ft.

ST. MARTIN PARISH

The Texas Company's No. 1 Iberville Land ..... Rig.
The Texas Company's No. 4 St. Martin, Hagar ..... Derrick.

ST. MARY PARISH

The Texas Company's No. 1 South C... Sec. 41-14s-16e.. No report.

TERREBONNE PARISH

The Texas Company's No. 5 State, Bay St. Elaine ..... Location.
The Texas Company's No. 4 State, Caillou Island ..... Location.
The Texas Company's No. 5 State, Caillou Island ..... Driving piling.
The Texas Company's No. 3 State, Dog Lake ..... Rigging up.
The Texas Company's No. 4 La. L. & E. Four Isle ..... Drlg. sand 2,440 ft.
The Texas Company's No. 2 La. L. & E., Bay Junop ..... Drlg. sand 277 ft.
The Texas Company's No. 5 State, Lake Barre ..... Drlg. gumbo 1,470 ft.

SOUTHWEST TEXAS FIELDS

(Continued from Page 55)

vey, total depth 1,915 feet, dry and abandoned. Big Indian Royalty Pool Co.'s No. 1 A. Rosenberg, 500 varas to southwest line, 1,330 varas to southeast line of Sam Pharras Survey, total depth 1,152 feet, dry and abandoned. E. L. Chapman's No. 3-C J. J. Sides, 450 feet to east line, 1,718 feet to south line of farm, P. Prater Survey, total depth 2,168 feet, dry and abandoned. Southland Development Co.'s No. 1 T. Lawler, dry and abandoned. J. R. Welder's No. 1 J. C. Abbott, 310 feet to north line, 150 feet to east line of tract, H. Owen Survey, total depth 2,275 feet, dry and abandoned.

Darst Creek——Guadalupe County

F. L. Thompson's No. 2 W. R. Posey, location abandoned.

NEW LOCATIONS

Pettus Area—Bee County

Union Producing Co.'s No. 28 George Ray, 150 feet to south line, 800 feet to west line of E. Ray tract of 416 acres, location. Same company's No. 29 Ray, 450 feet to north line, 215 feet to west line of A.B.&M. Survey, location.

Darst Creek—Guadalupe County

Gulf Production Co.'s No. 4 Malear, north end of Darst Creek Field, location. Magnolia Petroleum Co.'s No. 4 Richburg, west offset to Gulf's No. 4 Malear, location.

Chapman Pool—Williamson County

E. L. Chapman's No. 2 T. P. Simmons, 150 feet to south and west line of 17-acre tract, S. Miller Survey, location. E. L. Chapman's No. 3 T. P. Simmons, 300 feet northeast of No. 2, S. Miller Survey, location. E. L. Chapman's No. 4 T. P. Simmons, 300 feet southeast of No. 3, location. E. L. Chapman's No. 5 T. P. Simmons, 300 feet northeast of No. 4, S. Miller Survey, location. A. M. Keisker's No. 1 E. L. Chapman, derrick. Sequoia Oil Co.'s No. 4 T. P. Simmons, 300 feet west of No. 2, S. Miller Survey, location. Same company's No. 5 T. P. Simmons, 300 feet southeast of No. 3, S. Miller Survey, location. Same company's No. 6 T. P. Simmons, 300 feet west of No. 4, S. Miller Survey, location.

DRILLING ACTIVITY

Dobrowolski Pool—Bexar County

Bolling & Michael's No. 1 J. P. Adams, 150 feet to south line, 300 feet to west line of lease, Miguel Gortaris Survey, total depth 662 feet, preparing to deepen Eckert & Son's No. 8 L. Sandemer, 625 feet to south line, 1,155 feet to west line, Survey 52, total depth 318 feet, drilling. Penn-Tex Oil Co.'s No. 3 Sandemer, 300 feet west of No. 2, M. Manchaco Survey, total depth 630 feet, preparing to drill plug. Swearingen Oil Co.'s No. 5 fee, 30 feet south of No. 4, Survey 52, location. Same company's No. 6 A. J. Swearingen, 150 feet to west line, 1,100 feet to south line of 100-acre tract, Survey 52, location. Same company's No. 1 J. Halverdin, 1,997 feet to west line, 150 feet to southwest line, 109-acre tract, J. Perege Survey No. 52, total depth 718 feet, setting up storage. W. R. Swearingen's No. 2 Halverdier, 300 feet southeast of No. 1, J. Perege Survey, total depth 460 feet, drilling.

Bruner Field—Caldwell County

Humble Oil & Refining Co.'s No. 6 W. H. New, 450 feet to south line, 1,650 feet to west line, J. Hinds Survey, location.

Darst Creek—Guadalupe County

Abercrombie Oil Co.'s No. 9 Dix-McKean, 450 feet to southwest line, 150 feet to northwest line of 20-acre tract, J. R. Robinson Survey, total depth 2,503 feet, waiting on casing. Humble Oil & Refining Co.'s No. 2-A Dowdy, southeast part of Darst Creek, offset to Empire Gas & Fuel Co.'s No. 5 Dowdy, location. Simms Oil Co.'s No. 4 Manford, location. The Texas Company's No. 5-A Knoblock, location. Same company's No. 8-B Knoblock, 1,080 feet to northeast line, 150 feet to southeast line of 75-acre tract, J. R. Robinson Survey, location. Witherspoon Oil Co.'s No. 1 Baker, 300 feet north of Jarmon's No. 1 Baker on 40-foot strip between Humble and Texas leases. Further operations stopped by injunction: hearing September 1.

Chapman Pool—Williamson County

W. D. Anderson's No. 7 M. V. Lawrence, surface casing set. W. D. Anderson's No. 8 M. V. Lawrence, location; W. D. Anderson's No. 6-A T. P. Simmons, location. Bartlett & Wilson's No. 1 R. E. Stewart, total depth 741 feet, drilling. Bartlett & Wilson's No. 2 R. E. Stewart, total depth 790 feet, drilling. E. L. Chapman's No. 6-B J. C. Abbott, derrick. E. L. Chapman's No. 1 F. Fuchs, total depth 970 feet, shut down. J. L. Collins & Co.'s No. 5 M. V. Lawrence, 150 feet to west line, 515 feet to south line of 27-acre tract, S. Miller Survey, total depth 1,462 feet, drilling in Serpentine. J. L. Collins & Co.'s No. 7 M. V. Lawrence, 150 feet to east line, 215 feet to south line of 27-acre tract, S. Miller Survey, location. E. R. Ertel's No. 1 H. Swanson, spudded, shut down. Elliott & Moore's No. 1 A. J. Carlson, total depth 40 feet, drilling in shale. A. J. Luke's No. 1 A. Simmons, 500 feet to north line, 450 feet to west line of 25-acre tract, H. Owen Survey, total depth 2,210 feet, drilling in Serpentine. McIntyre and others' No. 1 B. Lawrence, location. McNeil's No. 6 Kilgore, total depth 1,550 feet, set casing, waiting on cement. Manning & Anderson's No. 1 Cooper, total depth 1,225 feet, drilling in shale. W. C. Marshall's No. 2 R. A. Krueger, total depth 2,800 feet, drilling. E. R. Marts' No. 4 T. P. Simmons, 150 feet west of center of east line of 17-acre tract, S. Miller Survey, location. Rheubotham's No. 1 S. H. Jarrell, total depth 40 feet, shut down. Rosenfield's No. 1 Pfluger, total depth 1,234 feet, fishing. M. M. Roman's No. 1 A. Jackson, total depth 1,900 feet, shut down. G. Stratton's No. 5 J. C. Abbott, 450 feet to east line, 150 feet to south line of 32-acre tract, S. Miller Survey, drilling. Jess Tomberlin's No. 1 C. M. Partman, total depth 1,410 feet, shut down. Westbrook and others' No. 1 T. P. Simmons, location. Wilson and others' No. 1 A. B. Simmons, total depth 2,260 feet, drilling in Taylor. Wilson and others' No. 1 C. Sitman, total depth 2,950 feet, shut down. R. S. Wilson's No. 1 J. A. Walker, rigging up. Texas Oil & Gas Development Co.'s No. 1 Gernert & Allison, 18,000 feet to north line, 7,000 feet to west line of Pedro Zarza Survey, total depth 40 feet, spudded in, shut down.

Pettus Area—Bee County

Arkansas Fuel Oil Co.'s No. 1 J. Kimball, 200 feet to south line, 200 feet to west line of 80-acre tract out of the A. C. Billlingsly 249-acre tract, Stephen Winship Survey, total depth 3,880 feet, shut down. Batex Petroleum Co.'s No. 2 Burnett, 361 feet to north line, 900 feet to east line of lease, South John Pace Survey, total depth 3,660 feet, sand at 3,649 feet, set casing. Cosden Oil Co.'s No. 4 McKinney, 497 feet north of No. 2 on the same lease and 300 feet to east line of lease, total depth 3,575 feet, shut down for fuel. C. R. M. Drilling Co.'s No. 1 Block 34 Townsite, center of Block 34, Pettus townsite, total depth 3,903 feet, oil sand, setting casing. Grayburg Oil Co.'s No. 2-A Kimball, 1,000 feet to north line, 200 feet to west line of 189-acre tract, Stephen Winship Survey, total depth 860 feet, set casing. Doctor Hewitt and others' No. 1 Mrs. Mauldin, 2,400 feet to north line, 1,200 feet to east line of 200-acre tract, J. Poitevant Survey, total depth 1,600 feet, shut down for repairs. Hicks and Young's No. 1 Billingsley, 155 feet to south and west lines of tract, B. Q. Hadley Survey, total depth 360 feet, shut down. Houston Oil Co.'s No. 2 Neumann, east offset to Cosden's No. 2 McKinney, George A. Kerr Survey, total depth 3,699 feet, top pay 3,689 feet. Same company's No. 1 Townsite, center of Block 21, Pettus townsite, total depth 1,128 feet, drilling. Same company's No. 1 Block 33 Townsite, center of Block 31, Pettus townsite, total depth 3,899 feet, set casing top pay at 3,890 feet. Same company's No. 1 Block 35 Townsite, center of Block 35, Pettus townsite, total depth 3,894 feet, top pay 3,887 feet, set casing. Humble Oil & Refining Co.'s No. 6 McKinney, 150 feet direct offset to Houston Oil Co.'s No. 1 Block 35, Pettus Townsite, total depth 1,900 feet, drilling. Humble Oil Co., Hurlbut and others' No. 1 J. C. Wood, 150 feet to northwest line, 1,144 feet to southwest line of survey and 350 feet to northeast line of 110-acre tract, P. T. Irrigation Co. Survey, spudded in.

Lange & Mimms' No. 1 Billingsley, 155 feet to south and west lines of Billingsley 10 acres out of 150-acre tract, J. Pointevant Survey, total depth 560 feet, shut down. Rio Bravo Oil Co.'s No. 1 S.A.&A.P. Railway, 59 feet north of south line, 120 feet west of west line of Block 3, Pettus townsite, spudded in. Same company's No. 3 S.A.&A.P. Railway, location. S.R.C. Oil Co.'s No. 1, Block 31, Townsite, center of Block 31, Pettus townsite, total depth 3,865 feet, coring. Southerland and others' No. 1 Billingsley, 155 feet to south line, 155 feet to west line of 40 acres, off north end of 150 acres, B. Q. Hadley Survey, derrick. Lange and Mimms' (Swift and others) No. 1 Mauldin, 155 feet to north and east line of 1-acre tract out of the Mauldin west 125 acres, J. Pointevant Survey, total depth 560 feet, shut down for fuel. Sun Oil Co.'s No. 1 Burnett, 371 feet to north line, 300 feet to east line of lease, South John Pace Survey, total depth 2,525 feet, drilling. The Texas Company's No. 2 J. R. Scott, 200 feet to north line, 150 feet to west line, J. M. Urango Survey, total depth 620 feet, drilling. Same company's No. 3 J. R. Scott, 7,100 feet southwest of No. 1, J. M. Urango Survey, location.

Union Producing Co.'s No. 17 Ray, 1,200 feet north of No. 11, total depth 3,675 feet, drilling. Same company's No. 18 Ray, east offset to Buchanan & Ogden's No. 1, Block 38, derrick. Same company's No. 19 Ray, east offset to Block 37 of townsite, total depth 3,865 feet, drilling. Same company's No. 20 Ray, east offset to Humble Oil Co.'s No. 5 McKinney, 150 feet south, 150 feet east of SE cor. of Pettus townsite, total depth 2,810 feet, drilling. Same company's No. 21 Ray, east offset to Block 40, Pettus townsite, 900 feet south, 150 feet east of NE cor. of townsite, derrick. Same company's No. 23 Ray, east offset to Block 39, 1,250 feet south, 150 feet east of NE cor. of townsite, location. Same company's No. 24 Ray, 812 feet from south line, 1,625 feet to west line of P. Miller Survey, total depth 2,870 feet, top pay 2,851 feet. Same company's No. 25 Ray, 1,700 feet to the south and 1,400 feet to east lines of P. Miller Survey, location. Same company's No. 26 Ray, 2,500 feet to south line, 2,000 feet to east line of P. Miller Survey, location. Wilson & Hill's No. 1 Block 14 Townsite, center of Block 14, Pettus townsite, location, waiting on permit. Wilson & Hill's No. 1 Roberts, center of Block 16, Pettus townsite, derrick. Nichols Oil Corp.'s No. 4 Hicks, 550 feet east of west line, 430 feet south of north line, Block 20, Jose M. Urangua Survey, total depth 4,453 feet, shut down.

Lassiter Pool—Brooks County

Houston Oil Co.'s No. 2 Holbein-Wormser, 2,100 feet to west line, 200 feet to south line, Holbein-Wormser 962-acre tract, E. P. de Maguellas Survey, total depth 3,396 feet, drilling sandy shale and lime.

Pettus Area—Goliad County

Union Producing Co.'s No. 12 Ray, 2,350 feet southwest of northeast line, 300 feet northwest of southeast line, William Southerland Survey, total depth 5,134 feet, drilling. Same company's No. 27 Ray, 1,500 feet to southeast line, 4,550 feet to southwest line of J. Gomez Survey, location.

Cartwright Field—Live Oak County

Houston Oil Co.'s No. 1 R. Boothe, 3,000 feet to west line, 300 feet to south line of 822-acre tract, M. B. Kilvan Survey, total depth 5,259 feet, working on derrick. Same company's No. 22 Cartwright, 550 feet east of No. 18, J. M. Colchado Survey, total depth 4,445 feet, drilling.

Saxet Field—Nueces County

Saxet Oil Co.'s No. 2 Donnegan, 2,150 feet due south of No. 1, location.

Lion-McFadden Pool—Victoria County

Houston Oil Co.'s No. 1 McFaddin, 330 feet south and 900 feet east of SE cor. of L. Mann Survey, spudded in. Lion Oil Refining Co.'s No. 2 McFaddin, 1,917 feet west of NE cor. and 512 feet at right angles from the north line of the C. O. Edwards Survey, in the M. J. Travesia Survey, total depth 4,036 feet, making drill stem test. The Texas Company's No. 1 A. M. McFadden, 1,550 feet to north and east lines of H. Benny Survey, total depth 2,504 feet, drilling.

LAREDO DISTRICT COMPLETIONS

Jennings-Muckleroy—Zapata County

Allied Gas Co.'s No. 7-B Trevino, 980 feet northwest line, 150 feet east line,

Block 15, Survey 65; total depth 1,293 feet, completed for 80 bbls. Its No. 9-A I. G. Trevino, 450 feet southeast line, 150 feet east line, Block 6, Survey 65; total depth 1,254 feet, completed for 50 bbls. W. R. Shankle's No. 5 Trevino, 1,195 feet north of south corner, 150 feet east line, Block 15, Survey 65; total depth 1,245 feet, completed, estimated 100 bbls. S.R.C. Oil Co.'s No. 5-A Trevino, 150 feet south line, 150 feet west line, Block 16, Survey 66; total depth 1,282 feet, completed for 50 bbls. Its No. 11-B Cuellar, 450 feet southeast line, 150 feet southwest line, Block 7, Survey 65; total depth 1,232 feet, flowing 100 bbls. Its No. 6-A Trevino, 490 feet north line, 150 feet east line, Block 8, Survey 66; total depth 1,279 feet, completed for 25 bbls.

Jennings-Cuellar—Zapata County

O. W. Killam's No. 25-B Cuellar, 1,685 feet south line, 1,105 feet southwest line, Survey 277; total depth 1,599 feet, flowing 250 bbls.

ABANDONED TESTS

Schoolfield-O'Byrne—Duval County

Magnolia Petroleum Co.'s No. 1 Lundell, 450 feet north line, 150 feet east line, southeast one-fourth of Survey 60; total depth 5,858 feet, abandoned, dry.

Jennings-Muckleroy—Zapata County

Allied Gas Co.'s No. 16-A Trevino, 150 feet northwest line, 1,650 feet southwest line, Block 6, Survey 65; location abandoned. Nordan-Morris and Grimm-Yakey's No. 2 C. Bustamente, 150 feet northeast line, 150 feet southeast line, Fansler partition, Comitas grant; location abandoned.

NEW LOCATIONS

Roma Pool—Starr County

The Texas Company's No. 5-A V. C. de Guerra, 675 feet north line, 675 feet east line, Share 305, Porcion 67, Jurisdiction of Mier; rigging up.

Jennings-Muckleroy—Zapata County

Nordan-Morris and Grimm-Yakey's No. 2 E. de los Santos, 750 feet southeast line, 382 feet southwest line, Share 7, Fansler partition, Comitas grant; rigging up. Mirando Lumber Co.'s No. 1 M. Garza, 150 feet northwest line, 150 feet southwest line, Block 62, Zorro Ranch, Comitas grant; derrick. Nix & Blankenship's No. 4 Montemayor, 150 feet north line, 150 feet west line, Block 1, Survey 64; drilling, total depth 800 feet. S. R. C. Oil Co.'s No. 7-A Trevino, 450 feet east line, 150 feet south line, Block 16, Survey 66; total depth 1,296 feet, waiting for casing. Its No. 8-A Trevino, 450 feet west line, 150 feet south line, Block 8, Survey 66; drilling, total depth 700 feet. Its No. 13-B Cuellar, 150 feet north line, 150 feet west line, Block 7, Survey 65; total depth 1,239 feet, waiting for casing. Its No. 14-B Cuellar, 750 feet west line, 150 feet south line, Block 13, Survey 65; drilling, total depth 1,200 feet. Winch & Henne's No. 2 J. Bustamente, 263 feet southwest line, 150 feet northwest line, Share 35, Fansler partition, Comitas grant; location.

Alamo Drilling & Leasing Co.'s (Claggett) No. 4 Trevino, 490 feet east line, 150 feet south line, Block 1, Survey 66; total depth 300 feet, drilling. No. 5 Trevino, 150 feet south line, 150 feet east line, Block 1, Survey 66; location. No. 6 Trevino, 450 feet south line, 150 feet east line, Block 1, Survey 66; location. Allied Gas Co.'s No. 3-B Trevino, 150 feet northwest line, 150 feet east line, Block 15, Survey 65; total depth 1,000 feet, drilling. No. 4-B Trevino, 150 feet east line, 350 feet northwest line, Block 15, Survey 65; location. No. 5-B Trevino, 260 feet east line, 485 feet northwest line, Block 15, Survey 65; location. No. 6-B Trevino, 150 feet east line, 775 feet northwest line, Block 15, Survey 65; total depth 1,252 feet, waiting on cement. No. 8-B Trevino, 520 feet northwest line, 465 feet east line, Block 20, Survey 65; location. Allied Gas Co. and Allen & Morris' No. 5 Gutierrez, 4,263 feet southeast line, 1,350 feet northeast line, Share 4, Fansler partition, Comitas grant; total depth 1,230 feet, drilling. No. 6 Gutierrez, 4,263 feet southeast line, 1,650 feet northeast line, Share 4, Fansler partition, Comitas grant; location. No. 7 Gutierrez, 4,263 feet southeast line, 150 feet northeast line, Share 4, Fansler partition, Comitas grant; location. No. 8 Gutierrez, 3,963 feet southeast line, 150 feet northeast line, Share 4, Fansler partition, Comitas grant; location. No. 9 Gutierrez, 3,663 feet southeast line, 150 feet northeast line, Share 4, Fansler partition, Comitas grant; location. Edgington & Niles' No. 5-B I. G. Trevino, 150 feet southeast line, 1,050 feet southwest line, Block 4, Survey 65; location. Gatlen & Matthews' No. 1 Garza, Block 18, Survey 413; derrick. Keene & Jackson's No. 1 M. Garza, 150 feet northwest line, 150 feet southwest line, Block 59, Subdivision Zorro Ranch, Comitas grant; rigging up. Nordan-Morris and Grimm-Yakey's No. 1 S. Bustamente, 990 feet northeast line, 150 feet northwest line, Share 34, Fansler partition, Comitas grant; location. No. 1 M. Trevino, 510 feet north line, 150 feet west line, Block 5, Survey 412; total depth 1,287 feet, coring. Skoglund & Maddox' No. 1 Montemayor, 150 feet west line, 450 feet north line, Block 5, Survey 63; rigging up. S.R.C. Oil Co.'s No. 1 F. Cuellar, 150 feet northwest line, 150 feet northeast line, Block 7, Survey 65; derrick. No. 12-B Trevino, location. Whicker, Arnold & Ahler's No. 3 Garza, 150 feet southwest line, 450 feet southeast line, Block 1, Subdivision Zorro Ranch, Comitas grant; rigging up.

Jennings-Cuellar—Zapata County

O. W. Killam's No. 26-B Cuellar, 1,885 feet south line, 1,025 feet southwest line, Survey 277; rigging up. O. W. Killam's No. 27-C Cuellar, 575 feet north line, 880 feet southwest line, Survey 278; drilling, total depth 400 feet.

O. W. Killam's No. 1 R. Lopez, 600 feet east line, 475 feet south line, Block 6, Survey 71; total depth 1,934 feet, drilling rock. No. 3 Lopez, 460 feet south line, 160 feet west line, Block 12, Survey 75; total depth 2,163 feet, drilling rock. No. 1 Slator, Block 1, Slator pasture, Borrego grant; location, spudded.

Cole Pool—Duval County

W. E. Mulholland's (Miller I. Shaw) No. 2 S. Benavides, 218 feet north line, 1,050 feet west line, Survey 173; drilling, total depth 2,550 feet.

Kohler Pool—Duval County

Simms Oil Co.'s No. 9 Dinn, 660 feet east line, 660 feet south line of NW SE, Survey 143; rigged up. Humble Oil & Refining Co.'s No. 48 Kohler, 990 feet south line, 475 feet east line, Survey 172; total depth 1,770 feet, test showed oil, waiting for casing. South Texas Producing Co.'s No. 4 Dinn, 660 feet north line, 660 feet east line, Survey 143; total depth 1,712 feet, test showed gas, waiting on casing.

Schoolfield-O'Byrne—Duval County

C. E. Long and others' (Shell) No. 1 Bishop Duval Land Co., 2,800 feet north line, 160 feet west line, Survey 59; total depth 450 feet, shut down temporarily. Magnolia Petroleum Co.'s No. 1 Hahl-Norton, 885 feet west line, 600 feet south line, Survey 61; drilling plug, total depth 2,308 feet.

Randado Pool—Jim Hogg County

Cole Petroleum Co.'s No. 1 Wood, 802 feet west line, 547 feet southwest line, Block 16, Survey 82; location.

Schott Pool—Webb County

George Marshall's No. 2 Garcia, 1,170 feet north line, 2,490 feet east line, Survey 458; total depth 1,888 feet, shut down.

Carolina-Texas Pool—Webb County

Magnolia Petroleum Co.'s No. 1 Jones-Wright, 330 feet south line, 330 feet west line, Survey 674; total depth 2,985 feet, coring. Washington Texas Oil & Gas Co.'s No. 1 R. O. Barnsley, 325 feet south line, 768 feet east line, Block 16, Survey 268; total depth 2,090 feet. drilling.

Cole Field—Webb County

O. W. Killam's No. 19 Bruni, Adams Subdivision, Mariano Arispe grant, Block 1, Survey 8; total depth 440 feet, drilling. South Texas Producing Co.'s (Humble) No. 3 S. Benavides, 150 feet northeast line, 150 feet northwest line, Block 429, M. E. Hall Subdivision, Mariano Arispe grant; total depth 1,767 feet, tested gas. Trussel, Cezeaux & Partees' No. 1 Bruni, 150 feet northeast line, 300 feet southeast line, Block 35, Adams Subdivision, Survey 10, Mariano Arispe grant; total depth 2,110 feet, drilling.

Pappas Pool—Zapata County

John Pappas Pool, Inc.'s No. 1 Flores, 2,977 feet southeast line, 600 feet Rio Grande River, Porcion 35; rigging up.

Charco Redondo Pool—Zapata County

C. R. Moore and J. W. Moore's No. 1 Adela G. de Flores, 330 feet northwest line, 330 feet northeast line, E. M. Doty Oil & Gas Subdivision, Block 99, Charco Redondo grant; total depth 320 feet, standing, moving in heavy rig. No. 2 Adela G. de Flores, 150 feet northeast line, 150 feet southeast line, E. M. Doty Oil & Gas Subdivision, Block 151, Charco Redondo grant; total depth 50 feet, standing. Mid-West Public Utilities Co.'s No. 1 Garcia, 450 feet southwest line, 450 feet southeast line, M. P. de Garza tract, Block 33, Pedernal grant; total depth 1,381 feet, standing.

CANADIAN FIELDS

(Continued from Page 64)

permission to lay a pipe line across the boundary into the Alberta end of the field, and if this is granted will take the Southern Alberta company's production.

Red Coulee Field

On the Montana end of the international Red Coulee structure, Cosmos Petroleum Co.'s No. 2 Thacker, SE Section 2-37-4w, is cleaning out and swabbing and looks good for 190 to 225 bbls. Cosmos' No. 1 has been placed on the pump.

Huso Brothers' No. 1 Buckley, NE, Section 1-37-4w, which was reported abandoned after encountering water in the upper sands, is resuming after an extended fishing job and will be deepened to the Ellis-Madison contact. Inland Petroleum Co.'s No. 1 producer is shut in, pending erection of a pumping derrick; Inland's No. 2 has spudded in diagonally offsetting Ohio Oil Co.'s No. 1 producer. Ohio Oil Co.'s No. 2 Farbo is drilling into the sand after cleaning out cavings. Ohio's No. 3 is reported drilling at 200 feet.

Carnegie Petroleums' No. 1, SE, Section 28-36-4w, is reported abandoned after encountering water at the top of the lime. This was the first test in the extreme southern area of the field. A new location will likely be made nearer the proven territory.

Big Gasser Drilled

West of the Red Coulee Field and north of Cut Bank, the L. W. Hill-L. B. O'Neil-Michaels' No. 1 has blown into production in the Sunburst sand at 2,750 feet with an estimated dry gas flow of 20,000,000 feet a day. It is one of the largest gassers yet drilled on the Montana side of the border field. Two previous gas flows in the Colorado shale were cased off. The location is about 2 miles northwest of the Sandpoint-Berger wet gasser.

Princeton Holdings, Ltd., has been incorporated at Vancouver by Princeton, B. C., interests to drill on acreage in the Red Coulee Field. The company is taking over 640 acres in the Red Coulee Field, and will drill No. 1 test on a 40-acre tract, sub-leasing the remaining acreage. Officers are: president, J. J. Malone; vice presidents, A. E. Howse and A. D. Broomfield; secretary-treasurer, James Corrie; directors, W. S. Garrison, William Harrison. P. N. Harvey of Vancouver is managing director.

On the Alberta end, Dalco Oil & Gas Co.'s No. 1, LSD 4, Section 11-1-16w4, being deepened jointly by that company and Commonwealth Petroleum, Ltd., has been abandoned after drilling some distance into the Madison lime at 2,650 feet. Location is in the northeast end of the Canadian Red Coulee Field. Casing is being pulled and equipment transferred to Dalco's No. 2, LSD 7, Section 19-2-17w4, in the northwestern end of the field. No. 2 will spud in next month.

Wainright Field

In the Wainright Field, east central Alberta, Senator Oil & Gas Development Co.'s No. 1, Section 23-44-5w4, has set and cemented 20-inch casing at 708 feet and is planning to resume in about a week and carry 10-inch string to production. Peninsular Petroleums, Ltd., has completed the deal for taking over Wainwell Oils, Ltd. The four wells of the Wainwell group will be put in steady production, after which probably Peninsular's No. 1, LSD 16, Section 20-45-6w4, standing at 256 feet, will be completed.

New drilling and completion of a number of partly drilled wells is apparently awaiting the results of negotiations for establishment of a refining plant to handle the Wainwright heavy crude. Construction of an initial unit of 700 bbls. capacity will be undertaken by certain refining interests as soon as operators sign up for their production and acreage. The proposed plant will be located in the town of Wainwright, and will, it is understood, specialize in fuel oil for the Canadian National Railways, which has agreed to utilize this product.

On the Paint Earth Creek structure, Hudson's Bay's No. 1, LSD 5, Section 27-39-15w4, is reported drilling at 606 feet.

British Columbia

In the Fraser Valley district, British Columbia, International Pipe Lines, Ltd., has completed cleaning out and testing of the old Monarch well, near Steveston. The well is reported to show natural gas in fair commercial quantity. The outfit has been skidded 700 feet for No. 2 test. The company also holds acreage in Washington near Bellingham, where it is stated to have some gas production from one well.

Hudson's Bay Operations

D. J. Moran, president of the Continental Oil Co., and R. Van A. Mills, vice president of the Hudson's Bay Oil & Gas Co. of Calgary, have been conferring in regard to a joint program of development in Alberta. The Hudson's Bay Oil & Gas Co., which holds extensive acreage in many parts of Alberta already has four tests actively drilling on as many different structures, and geological work on other structures has indicated some promising prospects which will be tested later. The possibility of the Continental Oil Co. establishing a large refining plant in the Canadian West has been mooted, but there seems to be no prospects of such a development in the immediate future.

Ontario Drilling

In Brant County, Ontario, a recent official report states that Petrol Oil & Gas Co. has drilled three shallow gassers on the Six Nations Indian Reserve near Brantford since May, when operations were commenced. Production at around 500 feet averages 100,000 feet a day for each well. Contracts have been let for 10 wells, the fourth of which is now being completed. The wells are shut in, but on completion of the 10 tests a line will be laid to deliver production to the Southern Ontario Gas Co.

HOUSTON GAS & FUEL

HOUSTON, Tex., Aug. 25.—W. Gardner Winters, with the Houston Lighting & Power Co. for two years, has been appointed vice president and general manager of the Houston Gas & Fuel Co., it was announced by N. C. McGovern, executive head of the United Gas system.

Alba H. Warren, who for 18 months has held the position of vice president and general manager of the Houston company, is on an extended leave of absence, made necessary by ill health.

MEETING DATES

Meeting dates of the local A.P.I. chapters of the Mid-Continent district are as follows:

Chapter—	1930 Sept.	Oct.	Nov.	Dec.
Eldorado, Kans.	None	7	4	2
Burbank	10	8	12	10
Seminole	15	20	17	15
Drumright	16	21	18	16
Tonkawa	17	15	19	17

V. O. C. PRODUCTION

NEW YORK, Aug. 23.—Venezuelan Oil Concessions, Ltd., reports for the week ended August 16 production of 117,806 metric tons, an average of 16,829 metric tons, as compared with 108,516 metric tons, or 15,502 metric tons daily, in the preceding week.

35 CENTS a line first insertion; 25c a line each additional insertion. Cash in advance.

CLASSIFIED WANTS

ARE RELIABLE BUSINESS AGENTS

WHAT have you to sell or offer? Our readers all turn to the Classified Pages.

LEASES—PRODUCTION

Thousands of acres Oil and Gas Leases to let on Overriding Royalty, West Ky., proven field. Many large companies operating now. Pipe lines building, also royalties and production for sale. W. S. Lowery, Salem Star Route, Marion, Ky.

FOR SALE: 5,000 acres oil and gas leases on structure, settled production. Royalties and mineral rights on large tract. Complete data furnished on application. W. P. Harley, Bowling Green, Ky.

10,000 ACRE LEASE BLOCK
NEW MEXICO, Chaves County. Good geology. 6 miles N. W. Roswell, 5-year term, ⅛ royalty, no drilling obligations, 5c acre annual rental. Price only $1.25 per acre. Wm. Spurck, Story Bldg., Los Angeles.

OIL LEASES AND ROYALTIES
Bought and Sold
In the Hobbs Pool
Lea County, N. M.
A. L. Gurley, Hobbs, N. M.
P. O. Box 26—Phone 6

North Western Okla. leases at $1.00 per acre. $.50 rentals. 314 E. Broadway, Cushing, Okla.

BROOKS COUNTY, TEXAS
OIL LEASES
Large and small tracts, cash buyers, drilling contracts. Write or see
J. E. SHERMAN FALFURRIAS, TEX.

HAVE TWO BLOCKS OF ZAPATA COUNTY, TEXAS, 10-year leases, with 25-cent rentals and close to nine years to run. One block consists of 3,804 acres and the other of 1,095 acres. Five tests being drilled close to this acreage. For maps and prices address R. O. Zielinski, 12836 Wood Street, Blue Island, Ill.

WILL SELL ALL or part working interest in 13,000-bbl. producer in Oklahoma City Field. P.O. Box 489, Shawnee, Okla.

FOR SALE—Lease on 1,206 acres, Bee County, Texas, J. R. Johnson Survey. 15 miles southwest Pettus Field, 12 miles southwest Cosden production, 8 miles southwest Grayburg, 10 miles west Normanna and 2 miles west well now drilling by Tom Slick, Barney Survey. Double pipe line through land. Want $17.50 per acre. Lacks & Knight, owners, San Antonio, Tex.

FOR LEASE—960 acres of land located in Cotton County, Oklahoma. Well being drilled now within a mile of this acreage. For details, address S. J. Samuel, Tonkawa, Okla.

BARGAIN twenty year leases, large and small, among and adjoining leases picked and bought by major companies along Balcones and Gueydan Fault Zones. A real geology shows formations underlying which produce in three surrounding major pools. Non-forfeiture four payment option terms give you control of price and sale delivery regardless of drilling developments. See maps and detail. R. R. Fisk, Box 1214-L, Wichita Falls, Texas.

PROMOTERS
or
OPERATORS

I own 7,600 acres of land in one block within 1½ miles of production in Port Barre Oil Field in St. Landry Parish, Louisiana. 1,200 acres at present under lease to The Texas Company. Excellent geology over entire tract. Am interested in having remaining unleased acreage developed.

Will make exceptional proposition to any promoter or operator who is in position to develop this acreage. All financing for development must be done by contracting parties. Address
Warren Lewis,
Care St. Landry Realty Corp.,
608 South Dearborn St., Chicago, Ill.

FOR LEASE—100 acres coal close in to main line. Kansas City Southern Ry. Jasper N. Butler, Poteau, Okla.

OIL LEASES—88 form, semiproven shallow field, Anderson County, Kansas. Will assign acreage for drilling well offsetting 80 acres. W. L. Morris Loan Co., Garnett, Kans.

LEASES—PRODUCTION

BARGAIN twenty year leases, large and small, among and adjoining leases picked and bought by major companies along Balcones and Gueydan Fault Zones. A real geology shows formations underlying which produce in three surrounding major pools. Non-forfeiture four payment option terms give you control of price and sale delivery regardless of drilling developments. See maps and detail. R. R. Fisk, Box 1214-L, Wichita Falls, Texas.

FOR LEASE, owner, South East ¼ Sec. 33, T. 17n, R. 5e, Lincoln County, Okla. Address 1746 Glenwood Road, Glendale, Calif.

ROYALTIES—PRODUCTION

ROYALTY bargains on structure, excellent geology. Major Companies, Balcones Fault Zone, Texas. Royalties in many Counties in Texas, Oklahoma and Kansas near or under drilling wells. Special 2,000 acre spread Big Foot Fault Structure Frio County, Texas, near Wray well. Write today for list and prices. James R. Haynes, Grantville, Kansas.

WHEN OTHERS FAIL try us for the right prices on Oklahoma City Royalty, Jobert Royalty Co., 319 Tradesmen National Bank Bldg., Oklahoma City, Okla.

LEA COUNTY now has several real GUSHER OIL WELLS. For Sale Lea County perpetual deeded oil royalties under Major Oil Company leases. Also five year state oil and gas leases located ahead of developments. Small investment, easy terms. Monarch Investment Co., Roswell, N. M.

FOR SALE producing and non-producing royalties, good geology under major companies' blocks in Southwest Texas. C. H. Bailey, 1712 Milam Bldg., San Antonio, Texas.

ROYALTIES—PRODUCTION

ROYALTY INTERESTS FOR SALE
Texas, Louisiana and New Mexico. Under producing oil properties operated by the Standard, Shell and other major oil companies. Inquiries invited from Royalty Companies, Brokers and Dealers.
J. G. REAVES
Milam Building San Antonio, Tex.

WE WANT good oil and gas royalties. Send us full information with reports. U. S. Royalties Corporation, C. A. Johnson Bldg., Denver, Colo.

ROYALTY INTERESTS under Drilling wells for as low as $12.50. Balcones Fault Zone, north of Van Oil Field, Texas.. Perpetual deeds with perfect title. We are specialists in offset and "Under the Drill" Royalty. Write Majestic Royalties Company, 608 Patterson Building, Denver, Colorado.

BEDROCK ROYALTY PRICES ahead of drilling on major company blocks. $6 per square mile. Perpetual deeds and title warranty. Clearly stated and understandable interests. See maps and bulletins. R. R. Fisk, Box 1214-B, Wichita Falls, Texas.

FOR SALE—One per cent royalty on Sections 5, 7, 9 and 21, Township 57n, Range 101w, Badger Basin, Wyoming; well drilling at 6,500 feet. Geology by Lufton and Kearney. Well should be completed within next 30 days. This is one of the best looking structures in Wyoming. This royalty is all well located on structure and priced to sell. Wire or write Post Office Box 1787, Great Falls, Mont.

WILL sell 1/128 interest in settled producing royalties under 151 acres with 31 wells in Dunn Field, Brown County, Texas. Present income approximately $50 per month. Answer Box E-270, The Oil and Gas Journal, Tulsa, Okla.

DELIVER YOUR MESSAGE TO CENTER OF ACTIVITIES

The Oil and Gas Journal has a world-wide circulation going to all Oil Fields, Refineries, Natural Gasoline Plants, Pipe Line Stations and offices of oil men everywhere.

The Oil and Gas Journal has a wide range of influential readers from executives in elegantly furnished offices to drillers in sunbaked huts in far-off tropical islands.

Oil and Gas Journal readers represent every branch and every department of the entire Industry. All read the Classified Wants Section every week.

Place your advertisement in the Classified Section where thousands of oil men see it. Send your ad now!

The OIL and GAS JOURNAL
PRODUCING REFINING ENGINEERING MARKETING
TULSA, OKLA.

ROYALTIES—PRODUCTION

OKLAHOMA OIL ROYALTIES
Royalty Sales Company
Suite 523 105 N. Clark St. Chicago.

ROYALTY BARGAINS in Oklahoma, Lincoln and Pott Counties for sale. American Inv. Co., 201 Elks Bldg., Oklahoma City, Okla.

ADVERTISING RATES

	1 time	2 times	3 times	1 mo
3 lines	1.05	1.80	2.25	3.30
4 lines	1.40	2.40	3.40	4.40
5 lines	1.75	3.00	4.25	5.50
6 lines	2.10	3.60	5.10	6.60
7 lines	2.45	4.20	5.95	7.70
8 lines	2.80	4.80	6.80	8.80
9 lines	3.15	5.40	7.65	9.90
10 lines	3.50	6.00	8.50	11.00

(Six words usually make a line)

Compute white space at the above rates.

Mail your advertising to

THE OIL AND GAS JOURNAL

Tulsa, Oklahoma

WANTED OIL AND GAS ROYALTIES
Producing and nonproducing royalties. Send us full particulars with price. 19 S. La Salle Street, Room 1523, Chicago.

WILL SELL ROYALTY UNDER PRODUCING WELL, Oklahoma City Field, $60 per barrel. Any amount up to 800 bbls. Address Box 489, Shawnee, Okla.

WHEN OTHERS fail try us for the right prices. Jobert Royalty Co., 319 Tradesmen's National Bank Bldg., Oklahoma City, Okla.

Raccoon Bend Austin Co. Texas offer 1/128 Royalty in 1,230 acres in Raccoon Bend. One of the best coastal fields. Between 75 and 100 producing wells in immediate vicinity. P. O. Box 202, Chapel Hill, Texas.

MONEY RAISING

BULLETIN, containing information of priceless value to responsible parties seeking capital, yours upon request. Free analysis and advice cheerfully given. Moderate rates. Prompt Service. Morris, Financing Specialist, 3608 Warren St., Philadelphia, Pa.

CAPITAL — An experienced, dependable broker will aid in financing propositions of merit. Amster Leonard, East Orange, N. J.

CORPORATE organizing and promoting of meritorious enterprises; reorganizations and new financing.
The BROOKWORTH CO., INC.
110 East 42nd St., New York, N. Y.

LARGE LOANS available for sound oil properties. Give full details. Mr. R., Room 606, Guarantee Trust Bldg., Philadelphia, Penna.

DO YOU NEED MONEY for organizing or financing oil or mining deals? Write 2443 N. W. 12th, Oklahoma City.

PATENT ATTORNEYS

REGISTERED PATENT ATTORNEYS
United States and Canada
Before disclosing your invention to anyone, send for blank form.
Evidence of Conception
Bulletin "How to Establish Your Rights" and complete information free.

LANCASTER, ALLWINE & ROMMEL
240 Ouray Bldg. Washington, D. C.

CONTRACT WORK

TROUBLE—If it is a fishing job, or having trouble shutting off water, or finishing bad wells. I make cable tools a specialty. By day or contract. With references. Write Millard Tedford, 2138 Ave. D., Wichita Falls, Tex.

Distress Gasoline Factor in Chicago

Movement Still Large but Chiefly on Contract. Feeling Exists September May Be Better Month Than Was August

By John B. Waldo

CHICAGO, Aug. 25.—The movement of gasoline in this area is still large but chiefly on contract.

Spot busing was quite active on Friday and Saturday of last week chiefly in anticipation of Labor Day but little of this business was noticeable in the market today. Some holders of August material were anxious to move their gasoline before the close of the month and offered it to possible buyers at 5½ cents for prompt acceptance while some inferior gasoline was offered at 5⅜ cents and even at the quarter-cent price. Until this distress gasoline is worked off by its owners the market will be under its influence.

There is some inquiry for September gasoline and jobbers report that they are being quoted 5¼ cents Group 3 for U. S. Motor gasoline in the differential territory. In spite of the present condition due in some respects at least to the distress material there is a feeling that September might be a good deal better month as to prices than August has been but only through the aid of the refiners in making a fair price and holding to it. More refineries were reported as closing down and this movement will increase, it is believed, with the coming month. The higher gravities were in light demand and the 62 400 endpoint was quoted at 5⅝ cents without making a sale. Kerosene was neglected, selling at times below 3 cents. Furnace oils showed no change and the movement is light. Industrial heavy fuels were inquired for by few buyers and the market had an easy tone. The advance in Pennsylvania crude has not changed the market for Eastern bright stocks and good oil was bought after the advance in crude at 21 cents at the Pennsylvania refinery.

The air races are attracting many people to the city and the consumption of gasoline, both aviation and regular, will be increased but the chief ones to benefit will be the stations on and near the field. Dealers report a fair week-end.

Carrying Small Stocks

The jobbers of the territory feel that there is no good reason for them to carry larger stocks than they have. They also feel that there may be ample reasons for them to carry small stocks. The majority of those who buy in the spot market have but small stocks and they are slow to increase these, for even so well known a holiday as Labor Day. The feeling is growing among the trade that the tank wagon scale must come down. A leading executive of a large integrated company is reported to have told the refiners, who told their friends, who conveyed the information to their families, that if the refinery price did not advance, the tank wagon would have to come down and if it was reduced, the cut would be 3 or 4 cents. This hardly sounds like the gentleman in question, who would be the last to employ any such threatening means to accomplish his end. Coupled with the suggestion of a reduction of 3 or 4 cents in the tank wagon market, is understood to be the suggestion of doing away with all of the present wide discounts. The Chicago tank wagon is 16 cents and if it were reduced a matter of 4 cents, the tank wagon would be 12 cents. The allowable spread is supposedly 5 cents between the refinery costs and the current selling price. This would leave the refinery costs at 7 cents which would be a good price on which to build.

Complicated Price List

The selling scale of prices has become so mixed up with a series of discounts that the price list is far from understood by even those who have made the price lists by gradually adding this feature and that to the present scale. It is not reasonable to give a man 3 cents discount and then to leave the discount at that figure for all quantities up to 75,000 gallons. Yet that is what the present price list does in this territory outside of Chicago. It is expected that when and if the scale is changed many of these unreasonable features will be removed. There are individual owners of stations and there are some of the large companies, who think that the present scale is too low and they object to any mention of lower prices as tending to lower the scale. There has been no reason outside of a man's own actions this summer, to make the tank wagon prices other than very remunerative. If the refiners would start trying to see how much money they could make instead of trying to find out how much gasoline they could sell the story of this season would have been different. There is no doubt that the refiners as refiners have not made any money. The organization may have made money as a producer or a distributor, but not as a refiner. The result is that some refiners who have no production or stations of their own, find themselves in a decidedly bad box, and there are some in the industry who say that they have brought it on themselves and must take the consequences. If the present market continues long enough, there will be a number of plants closed down.

Little Change in Market

As a result of the attitude of the jobbers and the larger companies, the market last week showed little change and what change there was, was towards slightly lower prices. There was not business enough to make the spot seller active and even the larger refiners who sold on contract were not receiving their full quota of orders in some cases. The result was a seeking for spot business with special orders being given the lowest prices quoted here for some time, if ever in the history of the gasoline business since there began to be a real demand for it. A case in point was the order of the Benzolene Motor Fuel Co., usually about 100 cars. The bids considered ranged according to reports made, from .0490 cents down to .0455 cents. The final bid which secured the order is stated to have been .0442 cents. An order was taken last week, in Milwaukee by one of the local refiners at a price stated to have been .0550 cents for 60-62 400 endpoint. These prices were Group 3, and being made by a local company there is something to be added in the way of the savings on freights which should amount to 2½ cents which would make these prices net the plant around 6 cents. For the usual run of orders, there was little change in price as compared with the preceding week. The demand for antiknock gasoline, particularly the Ethyl Gasoline is heavy right now. The Standard Oil Co. (Indiana) is using for its white gasoline a special peppy gasoline which will be equally favored by the motorists in summer and winter. It will give so quick a start that an old oil man last year was convinced in the dead of winter that the gasoline had something in it besides petroleum products. At the plant they say that it is all petroleum. The higher gravities continue to be very dull. This is undoubtedly the result of the switch to Ethyl Gasoline. Prices were unchanged. Natural gasoline is strong and the price is in the neighborhood of 5½ cents for any grade. The export demand is very quiet here, nothing doing at all in that line so far as this market is concerned.

Kerosene

Kerosene was moving a little better, according to some, but the uses to which the material was put were other than for lamp lighting. Some were ordering in kerosene to use it for tractor fuel. Others were placing orders for kerosene to hold it for a white distillate. The use of kerosene for tractor fuel is decreased by the habit of many farmers and tractor users to take gasoline as a fuel, especially when the price is not too high. There is a margin of 2 to 3 cents as a rule between the gasoline and the kerosene price but this is reducible as the gasoline would be considered as sold to a commercial account, and priced accordingly. The gasoline used for tractor fuel, is in most states not subject to a tax, so that the difference in price is not great and in operation it is sufficient to make many tractor owners favor gasoline for their fuel. The idea of using kerosene as a distillate is not very general and if practiced is only in spots so to speak. The idea of some dealers is that with kerosene they could make a better showing in competition with some of the higher qualities of furnace oil. There are some of the large refiners who make a real specialty of their furnace oil. It is rerun for odor and to give it the qualities which are so desirable in an oil of that nature. There are in this city many homes which do not use the oil burner simply because of the oil furnished. They have tried it and found the odor unpleasant to say the least and have gone back to coal, without any attempt to secure a real oil fuel.

Furnace Oils

Furnace oils are beginning to show some animation. The chief reason seems to be the desire of those who have not made a contract to do so. A number of jobbers were asked for the terms of their contracts and the large majority stated that they had contracts calling for the low price quoted by a certain publication without any high or low to bother about. On most of the furnace oils the market has sunk until the quotations today are below the minimum of the contracts which would oblige a buyer to take in the oil on a contract at more than the price at which he could buy that oil in the open market. This was an unforeseen contingency and has obliged some dealers to cancel the minimum price in their contracts. These adjustments will have to be made in the hope that the prices will advance to a higher level.

Distillates are being offered at slightly less than the kerosene price say at an average of 2¾ cents and gas oil at around 2½ cents for the average quality. The buyer of a prime white distillate will probably have to pay around 3 cents or better. So with gas oil, the straw gas oil is quoted at 3 cents at least and the light amber at nearly as much while the dark gas oil will sell at 2½ cents or a little less. The light fuel oils are also tending towards a price which is less than the minimum. The popular 28-30 oil is now selling at 75 cents in some cases and 80 cents would be a high price right now. These grades are all expected to advance in price but the tendency of the oil prices is downward.

In gasoline the peak months of the season did not save gasoline prices and it may be that the peak months of the heating season will not have the expected effect on prices for oil for heating. The immediate demand is light and prices remain unchanged. There is more buying for the future demand for heating and more taking in of oils already bought for storage but the season is just beginning, and there may be some change that is not expected at present. Burner men continue to state that their sales are good, better than in 1929.

The demand for U.G.I. gas oil continues rather quiet. The gas companies are using their usual quantities but are not as a rule buying ahead although this is not an established rule and some of the gas companies have bought a little for storage. The market continues to be firm for the strict specification oil. There are some 30-32 gas oils that will bring 1⅞ cents but the full 32-36 U.G.I. gas oil is being sold for 2 cents by the refineries. There are also some gas oils offered that will not bear the full specifications which can be had at less than the 2-cent price but the quantity of these is limited and the market for them hard to find as a rule.

Fuel Oils

The demand for fuel oils is not large right now. The inquiries have been limited both as to number and size. Many are inclined to blame the reports of crop conditions for some of the delay in industrial activity.

The heavy fuel oil demand is not at its best right now nor should it be. This is the season of vacations and the like and the business has to take a back seat.

The present market price for an 18-22 fuel oil ranges from 40 to 50 cents a barrel. Some very good specifications are put out by the sellers of the 45-cent oil. The lowest priced oil is from Texas and has the faults and the good qualities of oil from that section. It has a low cold test but the smell is strong but it is a clean oil. Oil from Toledo is also offered here at various prices but 45 cents is one of the favored prices for the product. This is an excellent oil and the reason for selling such a good oil at so low a price is to be found in market conditions. The very heavy oil is being placed on the market at cheap prices. Some heavy gravity fuel oil stated to be a 4 to 6 gravity was sold on a contract that has a considerable time to run, at a price which would net the Group 3 refinery taking the business but 27 cents a barrel. Some of this oil has been offered to marketers at $1.25 a barrel, Chicago, with a switching charge of $15 a car or 7½ cents a barrel in place of the 91 cents a barrel freight from Group 3. The charge might run less than $15 a car. The higher gravities are chiefly wanted in zero oils for tank wagon distribution. The plan of Hughes & Co. to sell oil from storage is looked upon as a very dangerous one for the company for the trade argues that the refiners here are not going to permit their trade to be taken away from them by such a method. They can easily sell a quantity of fuel oil that will take care of any outside offerings that may be made. But should a shortage of desirable oil develop the company might be in position to reap a reward for its hardihood in going ahead with the plan. The plan has been considered by several but they could not agree on the situation. It is suggested that any Muskegon fuel oil should be salable in Muskegon at as good if not better prices than can be had for the product in this city.

The advance in the price of Pennsylvania crude made on Friday of last week, it is hoped will strengthen the market for bright stocks and other products. So far the movement has been of little or no effect but there has been hardly time. The eastern curtailment has been severe and it has been made by most of the fields in the Pennsylvania district. Prices of bright stocks have been nominally unchanged. The demand is very light for all refinery stocks and prices are uncertain. Neutral oils have been declined from one-half to 1 cent by western refiners. The demand for motor oils is limited by the needs of the jobbers. The movement is not large but is fairly steady. Industrial oils and specialties are very quiet.

Eastern Refined Oil Market Unsettled

Statistical Position Still Showing Improvement but Spot Buying Is Slow. Further Refinery Curtailment Urged

By A. E. Mockler

New York Bureau, The Oil and Gas Journal, Rooms 1919-21, No. 154 Nassau Street

NEW YORK, Aug. 25.—Unsettled conditions still prevail in East Coast markets, and while the statistical position of the refined products branch is showing slow but steady improvement, spot markets are not fully reflecting this condition. Gasoline consumption has been held down by cold unseasonable weather, and with continued sharp competition for existing business, prices are naturally suffering.

According to the A.P.I. summary, gasoline stocks at East Coast refineries showed a sharp drop during the week ending August 16, standing at 6,198,000 bbls. on that date as compared with 6,549,000 bbls. at the close of the previous week. Notwithstanding this decline, stocks on the Atlantic seaboard are still topheavy when shipments of South American, Gulf, and California gasoline into this territory are taken into consideration, and it is still a buyers' market in most respects.

The season of peak consumption of motor fuel is rapidly drawing to a close, and considerable disquietude is shown in market circles over the outlook for gasoline prices when the drop in consumption sets in. It is generally felt that further drastic restriction in refinery operations will be necessary to meet these conditions, but the problem of securing this curtailment is a weighty one, and will require considerable "give and take" on the part of the principal refining interests in this area.

Gallonage in the East Coast area during the summer season now drawing to a close has been ahead of that for previous seasons, but despite the gain in aggregate sales, profit margins have not been all that could be desired, and the current financial position of some of the companies which have been most active in competing for business in this area fully reflects this condition.

Refinery Gasoline

Although the "official" posted price for U. S. Motor gasoline in tank car lots at refineries remains unchanged at 9 cents per gallon, with some sellers quoting up to 10 cents in tank car lots, the general market range is closer to 8 to 8½ cents per gallon, at which figures most of the current business is passing.

Refinery sales in the tank car market have been fairly active for the past week, notwithstanding the cool weather which tended to retard consumption somewhat, and refiners succeeded in further cutting down their storage holdings of motor fuel. Jobbers are keeping their storage full, but it is expected that with the passing of the Labor Day holidays, the distributors will adopt a more cautious attitude, with a return to hand-to-mouth buying anticipated.

Sharp competition is still in evidence in the barge market. While no official posted price is named for barge deliveries, principal sellers in that field have endeavored to maintain a price of 8 cents per gallon for U. S. Motor in large lots, but with little success. Current going prices on barge lots of gasoline average around 7¾ to 7⅞ cents a gallon, with one or two transactions at 7⅝ cents having been confirmed during the week.

There is still marked activity in the construction of bulk terminals at tidewater points and along the New York State Barge Canal, all of the principal refiners and marketers active in this area participating in this newest form of distribution. Numerous new self propelled tankers of special design are going into this service from month to month.

Tank Wagon Gasoline

There have been no general changes in tank wagon and service station gasoline prices in East Coast area this week, and the price structure is still in more or less chaotic condition.

Local price wars are more general in eastern territory this summer than for a year or more back, with retail prices showing wide variations in adjoining territories.

Not only are the independent brands taking part in this price cutting but the leading marketers, with advertised brands of motor fuel, are likewise forced to cut their prices at retail in order to meet the competition afforded by the smaller operators.

Continental Oil Co. is infiltrating into the local territory in a quiet, but nevertheless definite manner, and the number of "Conoco" signs at filling stations along the roads is perceptibly increasing. With the advent of this unit, and the marked expansion in retail sales activities on the part of Cities Service Co., through its subsidiary, Crew-Levick, the competitive situation in New York and New England territory is further aggravated, making the outlook for the coming winter season considerably more complicated.

There is a definite tendency on the part of the larger companies to continue to expand their chains of company owned stations, this being for the two-fold purpose of creating a more stable retail market, and in most instances, for the establishment of directly controlled chains to further the sales of greases, lub oils and other refined products in the specialty class, as well as for establishing large retail units which may profitably handle automobile tires and other accessories which may be added to stock from time to time as diversification of service station marketing progresses.

Kerosene

There has been a little improvement in the demand for water white kerosene, and the undertone has steadied somewhat. The posted price remains unchanged at 6¾ cents per gallon, and while some price cutting is being indulged in, underselling is by no means as general as was the case a fortnight or so ago.

Business has also picked up in the tank wagon division, with further gains looked for in the immediate future. Tank wagon quotations for kerosene have held steady in the face of a weak refinery market during the past two months, and present indications are that the current price basis for tank wagon kerosene will be carried forward into the winter season.

Paraffin Wax

Volume has sagged considerably, and the market has lost much of the firmness which had characterized trading during the preceding fortnight. While there were no actual downward price revisions during the week, refiners' price views were a little easier, and quoted prices were susceptible to shading by an eighth to a quarter cent per pound on a firm bid.

The current softening in the market position came at a bad time, in as much as a number of large domestic consumers had come into the market with inquiries for wax in fairly large blocks for their requirements for the remainder of 1930. The weakening in prices will naturally affect the closing of this business, and defer still further the stabilizing process which has been going on since midsummer.

Foreign operators are still operating on a curtailed basis in both fully refined and crude scale. Demand from the Orient is notably under previous levels, while Europe and South America, although buying in some volume, are not taking stocks in as large quantity as had been looked for. Refinery stocks are still heavy, and this, it is believed, is responsible in large measure for the ultra conservatism shown by many of the export buyers.

Fuel Oil

Routine movement of bunker oil continues locally, with refiners continuing to quote the "C" grade at $1.15 per barrel at refinery terminals. Contract deliveries are running ahead of comparable 1929 totals, but spot sales are rather sluggish.

While principal sellers are adhering firmly to the posted price basis, the market undertone is still somewhat unsettled, and refiners are watching the situation closely. Larger shipments from California or the Gulf might easily disturb the East Coast situation, it is said, fuel oil from both these points being obtainable at prices which figure out, on a laid down basis, substantially under $1.15 here.

Although refiners are making progress in curtailing production of fuel oil, stocks are still quite topheavy in some sections of the country, notably the Pacific Coast area, and these excessive holdings constitute a potential danger spot for eastern markets.

While eastern refiners have apparently abandoned all hope of a higher price basis for bunker oil during the closing quarter of the year, and are concentrating their activities on holding the market at its present level, they look for material improvement in market feeling with the advent of colder weather. Refiners and marketers have booked a substantial volume of business on furnace oil for the coming winter season, and deliveries against these contracts will start within the next six weeks.

Jobbers have likewise contracted for furnace oil in a large way, and all indications point to a record volume of furnace oil sales in the East, which should help both the fuel and gas oil markets.

Gas Oil

Refiners are looking for early improvement in this branch of the market, and a slight pick up in demand was discernible this week. The posted price remains unchanged at 5¼ cents per gallon, bulk, at refineries, but there is still plenty of oil available at a half cent below this figure.

Gas manufacturers in the metropolitan area are taking gas oil from the spot market in slightly better volume, cool weather having stimulated consumption, and further increase in consumption from this source is looked for when daylight saving goes off the books next month. The gas industry is just nearing the end of its annual dull spell.

Furnace oil consumption of low grade gas oil is expected to establish new high records this year, contract business already on the books of refiners and marketers being ahead of that contracted for at this time last year.

California gas oil is expected to move eastward in a larger way during the winter months, considerable high grade gas oil having been offered out of California during recent weeks at prices under a parity with the eastern market.

Diesel Oil

A steady undertone prevails in the Diesel oil market, and refiners are holding the market steady at the posted basis of $2 per barrel, in bulk, at refinery terminals. Contract business is well up to expected totals, and in addition there is a steady volume of spot business going through from week to week at full prices.

Shipment of a large cargo of Diesel oil from Los Angeles for Baltimore on a tanker belonging to a California oil company not previously identified with marketing operations on the Atlantic Coast has given rise to some speculation in trade circles as to the possibility of increased competition from Diesel oil from the Pacific Coast in eastern markets. Details surrounding the shipment mentioned are not available, but it is reported that the company in question is merely making delivery against a contract with a large Baltimore public utility company.

Industrial consumption of Diesel oil is picking up steadily, and refiners look for a steady widening of volume in this division of the market.

Lubs

Continued quiet has prevailed in the cylinder oil market, with quotations unchanged at the declines recorded during the preceding week. Inquiry had slackened off further, and while a fair movement was recorded against orders previously booked, new business was practically at a standstill.

Export operators were not in the market to any extent, and reported that there was very little buying interest on the part of their connections abroad. Inquiry from foreign distributors during the early part of the month was quite active, and operators had expected that this would be followed by a broader buying movement, but such has not been the case.

Refiners are reported to have adjusted their stocks somewhat during the past several weeks, with current production sharply curtailed, but it is still a buyers' market on most grades, and the market gives very little evidence of firmness on any quality.

Demand for red and pale oils is showing a seasonal expansion, and the movement in the local tank car market is broadening as manufacturing consumers widen their operations and increase their consumption of spindle and other industrial oils.

Petrolatum

The market is showing a better undertone, with lily white quoted up one-quarter cent at 6⅝ cents per pound, other grades remaining unchanged. Refiners are reported to have cut their production of petrolatum, in line with curtailed output of other refined products.

Pharmaceutical manufacturers are coming into the market for stocks in a large way for shipment over the remainder of the year, and some inquiry is being received for business during the first quarter of 1931.

Gulf Export Market

Although it appears pretty definitely understood that no immediate change in the posted price basis for gasoline at the Gulf is contemplated by leading interests, export operators apparently are not yet convinced of the permanency of present quotations, and there has been a general tendency to "mark time" during the past week. No cargo sales were reported made at the Gulf during the period, and no new inquiries came into the market.

Several cargoes of fuel oil were reported offering out of the Gulf at 73 to 75 cents per barrel, but a buyer who went into the market for one cargo at the top figure was unable to fill his requirements.

Kerosene continued in dull position at the Gulf, with less-than-cargo business the only trading reported, and refiners asking posted prices for cargo lots of prime or water white.

The Venezuelan crude oil market was in quiet position during the week, although it was expected that some contract business for 1931 would develop during the coming quarter. The Venezu-

(Continued on Page 146)

SPECIAL ALLOY STEEL FORGED VALVE AND VALVE SEAT, HARDENED AND HEAT TREATED.

▼

REDUCTION IN WEIGHT RESULTING IN LONGER LIFE, LESS POUNDING AND QUICKER VALVE ACTION.

THIS NEW VALVE
IS STANDARD EQUIPMENT ON
GD
MUD PUMPS

SELF-CONTAINED, CENTER PIN GUIDE BOLTED IN THE SEAT, ELIMINATING UPPER OR LOWER GUIDES.

▼

NICKEL STEEL GUIDE PIN, HARDENED AND GROUND.

GARDNER-DENVER COMPANY
QUINCY, ILLINOIS
Oil Field Branches in all Principal Cities

J735

GARDNER-DENVER

Manufacture of Natural Gasoline

American Chemical Society Program Has Interesting Papers

Several papers of interest to the natural gasoline industry will be read at the meetings of the division of petroleum chemistry during the next convention of the American Chemical Society which will be held in Cincinnati, Ohio., September 8 to 12.

Dr. S. C. Lind and Dr. George Glockler of the University of Minnesota will continue with a discussion of their work of producing heavy hydrocarbons by condensation of ethane by use of the electric spark. The discussion will extend to work done on methane, propane, butane and ethylene.

The complete program for the petroleum section is shown below:

J. Bennett Hill, chairman; C. R. Wagner, secretary.

Tuesday Afternoon

2:00—Joint meetings in Room 11, Library, with Gas, Fuel and Industrial and Engineering Chemistry Divisions.

Symposium on "Industrial High-Pressure Reactions"

Wednesday Afternoon

2:00—S. C. Lind and George Glockler. The Condensation of Hydrocarbons by Electrical Discharge.

2:30—H. S. Davis and G. S. Crandall. The Role of the Liquid Stationary Film in Batch Absorptions of Gases. 1—Adsorptions Involving Number Irreversible Reactions. H. S. Davis and G. S. Crandall. The Role of the Liquid Stationary Film in Batch Absorptions of Gases. 2—Absorptions Involving Irreversible Chemical Reactions. H. S. Davis and George Thomason. The Role of the Liquid Stationary Film in Batch Absorptions of Gases. 3—Rates of Hydrogen Absorption and Relative Rates of Catalytic Hydrogenation in Alcohol.

3:15—Walter J. Podbielniak. Apparatus and Methods for Precise Fractional Distillation Analysis.

3:35—J. C. Geniesse and Raymond Reuter. Effect of Time and Temperature on the Cracking of Oils.

6:00—Divisional dinner.

Thursday Morning

9:00—Wheeler G. Lovell, John M. Campbell and T. A. Boyd. Detonation Characteristics of Some Paraffin Hydrocarbons.

9:30—Lloyd Withrow, Wheeler G. Lovell and T. A. Boyd. Following Combustion in the Gasoline Engine by Chemical Means.

10:00—D. T. Flood, J. W. Hladky and Graham Edgar. The Chemical Nature of the Gum-Forming Constituents of Gasoline.

10:30—Julius Hyman and C. R. Wagner. Some Factors Affecting the Catalytic Activity of Cobalt Oleate on the Autoxidation of Pentane-2.

11:00—Round table discussion of Grease Problems.

11:30—Election of officers.

6:00—Divisional dinner.

AWARD SERVICE PINS

The Standard Gasoline Co., a subsidiary of the Standard Gasoline Co. of California, recently awarded service pins to three of its employes, David Lumsden, Fred Mitchell and I. C. Yates. These men have been in the employ of the company for 15 years and while the time would not be usually long for other industries, it practically spans the existence of the natural gasoline industry in California.

BOTTLED GAS AND ITS EFFECTS ON RURAL BUSINESS CONDITIONS

By T. F. Kennedy
H. L. Doherty & Co.*

Liquid gases were first obtained in quantities large enough to make them commercially attractive in the process of extracting gasoline from natural gas. With the vast recent discoveries of natural gas and the demand for gasoline, quantities of propane, butane and pentane accumulated. A portion is used to mix with gasoline to give quick starting and rapid acceleration to motor cars, but large quantities remain for disposal.

They were offered to manufactured gas companies for enriching and to meet peak load conditions, but these outlets proved so inadequate that the natural gas and oil companies began to widen the market by going direct to manufacturers whose processes entailed specialized heating operations. In such large jobs they were able to supplant manufactured gas and electricity where the rates were not competitive with these new fuels.

Further search for wider markets brought them to domestic uses as cooking and water heating, where much higher prices could be obtained. Sales organizations composed of dealers, agents and salesmen were and are still being built rapidly. To give a picture of how fast this new industry is developing, 4,500,000 gallons of these liquid gases were sold in 1928 and 10,000,000 in 1929. During last year the domestic users reached 100,000 and between 50,000 and 75,000 new users will be acquired during 1930. In the domestic field Philgas, with its 50,000 customers and Pyrofax with 35,000, are at the moment the most prominent. Late developments will undoubtedly add impetus to the movement.

Further Expansion Certain

The important bearing that liquid gases will have on the future development of the sale of electricity is again enhanced by recent discoveries in petroleum refining, such as high pressure cracking. In answer to the problem of increasing the gasoline yield per barrel of crude oil a German method, known as the hydrogenation process, has been acquired by the potent Standard Oil Co. of New Jersey, and the right to use this process in turn passed on to the other large oil companies. In the hydrogenation process, again, large quantities of propane, butane and pentane accumulate. The supply will shortly, therefore, jump by hundreds of thousands of gallons per day, the sales efforts will multiply and the prices reduce. Profit to oil companies from these ventures are of less immediate importance than disposal of the product, development of uses and a fast and general widening of the market.

The quiet marshalling of forces to go after the nation's heating business makes a very striking array of capital, ability and determination. The $15,000,000,000 petroleum industry, the manufactured and natural gas industry, constitute a combination of worthy opponents to the electric industry as it moves to acquire additional business from its rural customers.

Effect on Rural Business

The influence which bottle gas will have in rural electric business depends on the efforts to meet this competition. Rural customers who already cook and heat water electrically will be hard to interest in gas. Once a customer has made an investment in appliances to use a certain fuel, that fuel is invariably used throughout the life of the appliance. Bottle gas is, therefore, a factor to be reckoned with in our efforts to increase rural sales.

In use, both services are modern and clean. Maintenance of equipment is about even. Gas has the advantage of speed; electricity that of safety and continuance of supply. However, bottle gas dealers are now refilling containers without notice from the customer and render a monthly bill based on the actual amount consumed.

Equipment and Appliances

What the customer must pay to obtain service already favors gas. To prepare for electric cooking and water heating a larger service must be provided, with service entrance switch and wiring to the appliances all costing the customer about $50. Bottle gas machines including containers housing regulating devices and piping when first placed on the market were somewhat higher than this amount; today the average is 20 per cent less. To speed up sales the larger companies are installing this equipment without charge to the consumer, lending same to him as long as he continues to use their fuel. The customer, therefore, must buy only the appliances.

Ordinary gas ranges and water heaters can be used with minor changes in burner hangers and orifices. We all know that gas appliances are available to the public at about 30 per cent less cost than electric apparatus. As the prospect compares the bottle gas proposition with the electric offer he will see an important saving in buying the former as to initial investment at the price levels which prevail today.

Operating Costs

Costs of operation are always important to the public. It is fair to assume that the average electric rate for rural cooking and water heating will average 3 cents per kilowatt hour. For comparison with other fuels let us put this on a per 1,000,000 B.t.u. basis, or $8.79. The liquid gases average 20,000 B.t.u. per pound. Propane delivers to the customer for 12 cents, butane 10 cents and pentane 8 cents, or an average of 10 cents per pound or $5 per 1,000,000 B.t.u. On a heating value basis, bottle gas is 43 per cent cheaper. Electric appliance efficiency being higher than that of gas appliances will narrow this margin. On the other hand, the rapid downward trend

(Continued on Page 144)

*Delivered before the Sales Manager Association, Association Island, Henderson Harbor, N. Y.

Construction and Operation

OBSOLESCENCE OF EQUIPMENT*

In an industry that has moved forward with as rapid strides as the natural gasoline industry, the question of obsolescence of equipment and processes is always in the foreground. The cost of changing equipment must not be allowed to obscure the operating economies which can thereby be effected. That the industry has been progressive in this regard is attested by the changes it has experienced in the last decade.

The universally used compression process had given way to the oil absorption process by 1920. Not only were new plants employing the new manufacturing method, but a large number of existing plants were "changed over." High stage compressors were junked or warehoused against questionable use in the future. By the substitution of low stage compressors, the capacity of the plant was doubled. In many cases, lean gas, if available in the field, was connected to the plant gathering system. This was made possible, first, by reason of the doubled compressor capacity, and, second, by reason of the greater efficiency of the oil absorption process.

The writer has in mind a number of cases where, with the expenditure of 25 per cent of the original cost of the compression plant and gathering system, over 100 per cent was added to the gasoline production, while the operating expense was increased 25 per cent. Where there was a market for residue gas, the earnings were obviously still greater increased. The increased production was derived both from the additional volume of gas handled and from the better stripping of the gas. The compression plant shows from .3 to 1.0 gallons per 1,000 cubic feet, while in an absorption plant the average residue content is under .1 gallon per 1,000 cubic feet.

In the earlier absorption plants the horizontal shell-type steam still was standard. Where fuel was a factor, the fire still replaced the steam still. If the fuel economy would amortize the net cost of the change in three years, the change was justified. Where fuel gas had a value of 8 to 10 cents per 1,000, such changes were made in a number of cases.

The tubular preheater put a stop to the increasing popularity of the fire still. This preheater made possible a more intimate contact between oil and the source of the heat than was obtained in the fired shell still. The tubular shell still did not find favor on account of the expense of tube replacements, and because of the suitability of the steam-preheated bubble-type still.

Hundreds of miles of heat exchangers, built by running small diameter pipe in larger pipe (chiefly 2-inch inside of 4-inch), were taken up and replaced by compactly built tubular heat exchangers. The cost was cut in half and the depreciation reduced to the vanishing point. The oil required to fill the exchangers alone was more than enough to fill the entire system in the modernized plant.

Few absorbers of the baffle type remain. In one field alone, some hundred plate absorbers have been replaced by possibly a dozen bubble type absorbers. Where the particular type of gas justified it, 10-tray absorbers have been replaced by absorbers having 16 and 22 trays. Again, it is the question of arithmetic. Will the increased yield justify the cost of the improvement and leave a healthy margin?

Another piece of standard equipment of yesterday was the tubular-type knock-out box. In plants where efficiency and product control are factors, these have been taken out and in their place tray-type columns have been installed. Better fractionation is possible between the gasoline and oil, less oil has to be rerun, low endpoint gasoline can be made, drier oil can be made available for the absorbers, and an overall fuel and power economy can be realized.

The list is by no means complete. Enough has been cited, however, to show that the manufacturer has not sat idly by while the market value of his product has been going down. Moreover, reduced manufacturing costs have not "hit bottom." Other developments are in the offing.

*Twenty-fifth of a series of articles explaining the inner working of a natural gasoline organization. The series was prepared by an operator actively engaged in all phases of construction and operation.

Brief Items for Petroleum Refiners

Hydrogenation to Be Included Next N.P.A. Program

One of the subjects which promises to be of great interest to those attending the National Petroleum Association's annual meeting in Atlantic City September 17, 18 and 19 will be a description of the operation and results of the hydrogenation process by Dr. R. T. Haslam of the Standard Oil Co. of New Jersey. Doctor Haslam's talk will outline in detail, for the first time, the temperatures and pressures carried on the various parts of the equipment, the use of the catalyst, the manner of generating the hydrogen, unusual construction features and the quality of the products made.

Another important subject to be discussed will be aviation and its relation to refining and marketing problems. Colonel C. M. Young, assistant secretary of commerce, in charge of aviation for the federal Government, will also give an outline of the Government's plans for the development and control of aviation.

The rate of expansion of aviation and the development of air transport lines will be discussed by L. D. Seymour, vice president and general manager of the National Air Transport Co. As another feature of the discussion of airplane developments and their relation to the oil business, R. B. Kahle, president of the Colonial Beacon Oil Co. will discuss the problem of marketing aviation motor fuels and lubricants.

Another speaker, representing the automotive industry and who has proven of great interest in previous talks before meetings of refiners, is H. L. Horning, president of the Waukesha Motor Co. He will discuss developments in the automobile engine and the effect of the changes on the kind of fuel required. Another paper of importance to the industry will be delivered by some member of the Federal Oil Board's economic committee, who will outline the statistical position of the industry and interpret trends.

Additional papers will be announced in the complete program within a short time. This will also include a fellowship luncheon which will be provided by the Sinclair Refining Co. on September 18 at Sea View Golf Club prior to the golf tournament and the annual banquet.

MID-KANSAS TAKES OVER OPERATION OF STATIONS

All properties formerly owned by the Transcontinental Oil Co. will be operated under the name of the Mid-Kansas Oil & Gas Co., according to an announcement of the past week. The change follows the recent merger of the Transcontinental with the Ohio Oil Co. which owns and operates the Mid-Kansas company as a subsidiary.

The Transcontinental brand name of "Marathon" will be continued by the Mid-Kansas company which in an official announcement stated that no changes were being made in the refining and marketing departments of the Transcontinental company. The latter company has a large number of bulk and retail stations in the Southwest.

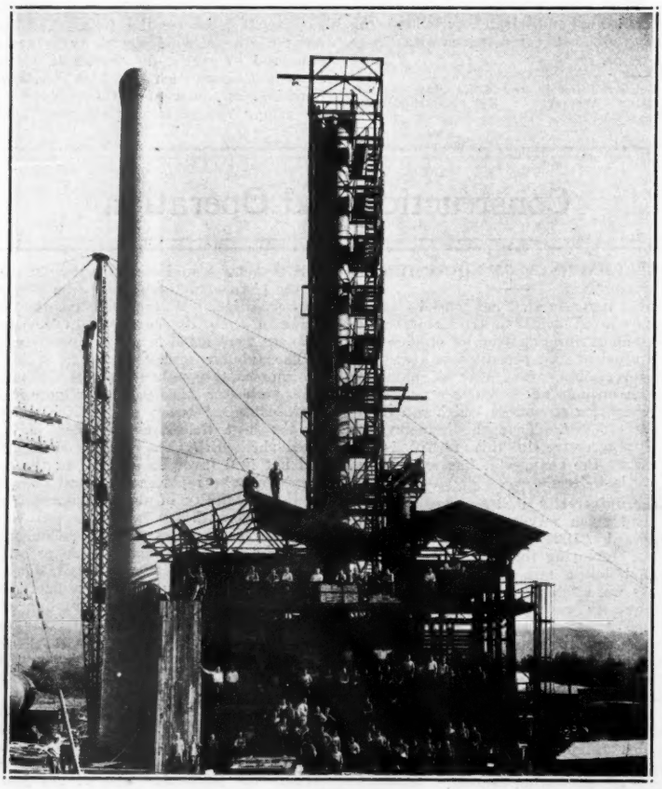
PURE SHIPPING CRUDE

The Pure Oil Co. is now making regular shipments of crude from the terminal of its pipe line at Bay City, Mich., to the Imperial Refining Co. at Sarnia, Ontario. The first delivery was made by tanker last week and consisted of 17,000 bbls. of crude. Four 55,000-bbl. tanks have been built at Bay City for storage.

NEW TWO STAGE UNIT READY TO OPERATE IN CREW-LEVICK PLANT

By the close of August, the Crew-Levick Co. expects to be ready to operate its new combination vacuum crude reducing unit and pressed distillate rerun unit, now nearing completion at its Titusville, Pa., refinery. These were designed and erected by the Foster Wheeler Corp. The crude unit will handle 3,000 bbls. of Pennsylvania grade crude daily to produce a finished gasoline overhead with seven sidestreams off the tower and steam refined cylinder stock as bottoms.

This unit may also operate to produce an overhead cylinder stock, in which case it will handle 2,500 bbls. of crude a day to make finished cuts of gasoline, kerosene, gas oil, pressable wax distillate, overhead stock and 8 to 10 per cent flux bottoms with a small slop wax cut. Provisions are made on the tower to also take a naphtha cut if desired. The tower on the crude unit stands 131 feet above the ground, as may be seen in the picture. The tower for the rerun unit is shown just to the left of the large tower. The rerun unit will serve a double duty. It will be used to run the pressed distillate for the manufacture of lubricating oils or as a solution rerun unit for recovering the naphtha from the bright stock-naphtha solution. It will handle 800 bbls. of pressed distillate a day, making a 100 viscosity lub cut as a side stream and 200 viscosity bott·ms, with gas oil as the overhead. Operating as a solution rerun unit it will handle 1,300 bbls. of naphtha-bright stock solution per day.



The construction crew at the Crew-Levick Refining Co. of Titusville, Pa., stopped long enough to have their picture taken. This shows the furnaces for the atmospheric-vacuum crude unit on the left and the pressed distillate rerun unit on the right, with the towers in the background.

STANDARD DENIES BUILDING

NEW YORK, Aug. 25.—Standard Oil Co. of Indiana has formally denied published statements that it intends to build a hydrogenation plant at Casper, Wyo., to refine black oil produced in the Rocky Mountain fields, according to Chicago advices.

The Indiana company, as a result of its purchase of the half interest held by Sinclair Consolidated, now has control of the Sinclair pipe line from the Salt Creek Field in Wyoming to Fremont, Mo., where the line connects with lines extending from Chicago to the Gulf Coast. The Wyoming line laid by Sinclair in conformance with its Teapot Dome contract consists of a main 10-inch line with [illegible]-inch loops.

The Indiana company, according to Casper reports, is considering placing improved methods of refining gasoline in operation at its three Wyoming refineries, with a possibility that the pipe line may be utilized to ship gasoline into consuming territory which may be economically served from Wyoming.

INDIAN CO. MOVES OFFICES

CHICAGO, Aug. 23.—The Indian Refining Co. has moved its offices to room 1,234 in the same building where it has been located for several years, the McCormick Building at 332 South Michigan Avenue, Chicago.

HOLD CONNECTICUT LUB LAW UNCONSTITUTIONAL

NEW YORK, Aug. 26.—The act of the Connecticut General Assembly fixing an arbitrary standard for lubricating oils has been declared unconstitutional in a decision filed in federal court at Hartford yesterday. The opinion, written by Judge Edwin S. Thomas and concurred in by his associates, grants a permanent injunction to the oil companies restraining Connecticut state authorities from enforcing the act.

The plaintiff companies which pooled their interests in opposing the measure were Beacon Oil Co., Atlantic Refining Co., Gulf Refining Co., Shell Eastern Petroleum Products, Inc., Sinclair Refining Co., Standard Oil Co. of New York, Sun Oil Co., Tide Water Oil Sales Corp., The Texas Company, Vacuum Oil Co. and Mexican Petroleum Corp.

The measure provided that no motor lubricating oil could be sold in the State unless it equaled or bettered arbitrary specifications compiled by the United States Bureau of Standards. It also specified that all containers of oil and sales vouchers should be plainly marked with a guaranty that these specifications had been met.

VACUUM PURCHASE OF WADHAMS STILL PENDING

CHICAGO, Aug. 25.—A. G. Maguire, president of the Wadhams Oil Co., Milwaukee, states that the company's properties have not been sold. It was stated however that negotiations were still pending with the Vacuum Oil Co. The Wadhams Oil Co. was organized in 1879 and for several years has been one of the leading distributors of gasoline and other petroleum products in Wisconsin. A little more than a year ago, the company was merged with the Bartles-Maguire Oil Co., both continuing their separate operation, the joint control being exercised through a holding company. The feeling in the trade is that the purchase of the Wadhams Oil Co. by the Vacuum Oil Co. will be consummated. It will give the Vacuum Oil Co. a commanding position in the Wisconsin petroleum situation.

APPOINT RECEIVER FOR PEERLESS PROPERTIES

C. O. Nelson of Chanute, Kans., has been appointed receiver for the Peerless Oil & Refining Co. with headquarters in that city. A meeting of the company's creditors will be held August 30 at which time it is expected a permanent receiver will be appointed.

The appointment of the temporary receiver was the result of involuntary bankruptcy proceedings filed in Federal court at Fort Scott, Kans. The petitioners were the Exchange Drilling Co., Tulsa, Okla.; J. Chambers, Winfield, Kans., and Champlin Refining Co. of Enid, Okla.

The Peerless company has operated a refinery at Chanute for several years. The plant which has been shut down has both skimming and cracking equipment.

BELGIUM REDUCES IMPORT TAX

NEW YORK, Aug. 25.—The Belgian Government has reduced import duties on a number of refined products, as follows:

Gasoline, from 80 to 70 francs per 100 liters.

Lubricating oils and fuel oil, from 10 francs per 100 kilos to duty free.

At the same time, the government established an excise tax on all gasoline refined in Belgium.

A Submerged Scale Shedding Condenser or Cooler

Booths 42-43
Oklahoma Bldg.

ANY available cooling water—no matter how hard, salt or dirty—will indefinitely maintain full rated condensing or cooling effect with G-R Submerged Type Bentube Sections.

The patent construction of these sections causes scale to be automatically and continuously shed without the necessity of hand scaling with its resulting shut-downs and labor expense.

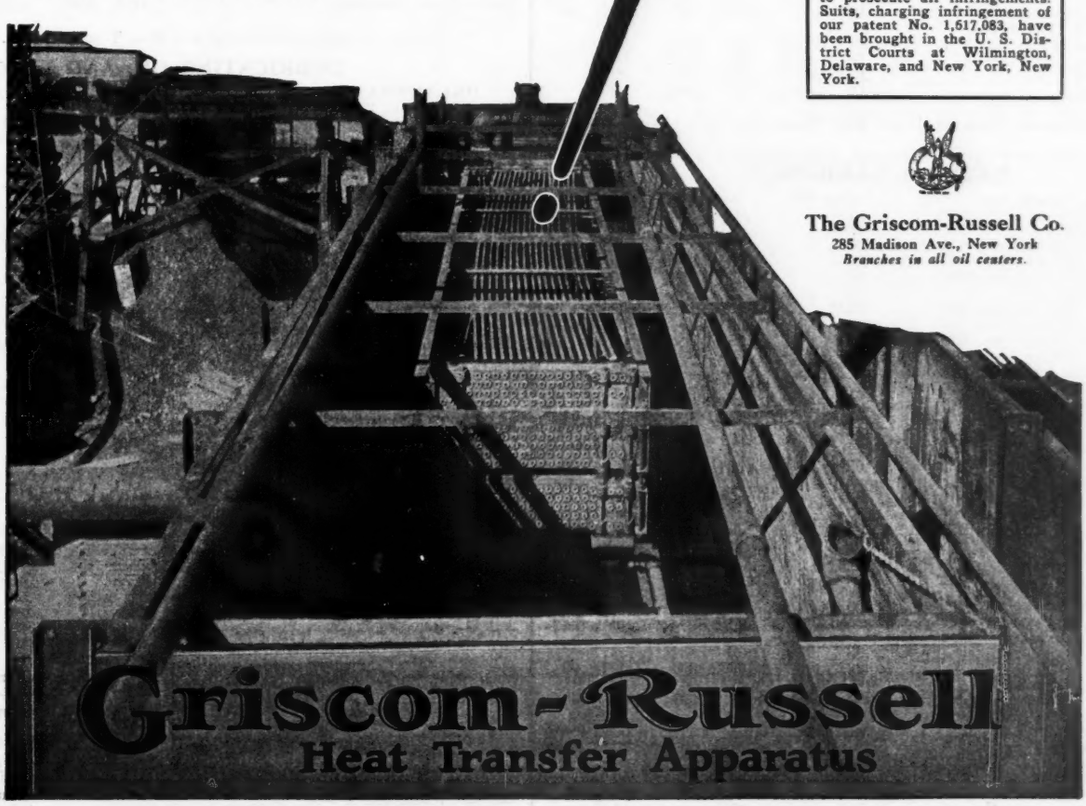
In a typical Submerged Type Bentube Section installation on cylinder stock cooling service, the stills are now being pumped out in about one-fifth the time formerly required with other types of submerged cooling apparatus, and oxidizing or coking of the oil has been eliminated.

G-R Submerged Bentube Sections can materially speed up your condensing and cooling operations and improve their effectiveness and economy. Write for full information.

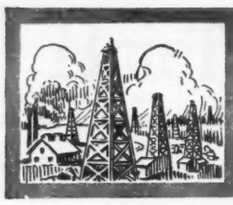
The G-R Bentube Section

3,000,000 gallons daily capacity in use

The G-R Bentube Section is patented and it is our intention to prosecute all infringements. Suits, charging infringement of our patent No. 1,517,083, have been brought in the U. S. District Courts at Wilmington, Delaware, and New York, New York.



The Griscom-Russell Co.
285 Madison Ave., New York
Branches in all oil centers.



REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

GASOLINE AND NAPHTHA

	Aug. 26		Aug. 19		Aug. 12	
OKLAHOMA (Group 3)—						
50-52 450 endpoint	.06	.06¼	.06	.06¼	.06	.06¼
56-58 450 endpoint	.05¾	.06	.05¾	.06	.05¾	.06¼
*58-60 437 endpoint (U. S. Motor)	.063		.0643		.0646	
*60-62 437 endpoint	†.05¾	.06	†.06	.06¼	†.06	.06¼
*60-62 400 endpoint	.0688		.0712		.0694	
*64-66 375 endpoint	†.06½	.07	†.06¾	.07	†.06¾	.07
68-70 360 endpoint	.07	.07¼	.07	.07¼	.07	.07½
64-66 437 endpoint (blend)	.05½	.06	.05½	.06	.05½	.06
NORTH TEXAS—						
50-52 450 endpoint	.05¾	.05¾	.05¾		.05¾	
58-60 450 endpoint	.05½	.05¾	.05½	.05¾	.05½	.05¾
58-60 437 endpoint (U. S. Motor)	.05½	.06	.05½	.06	.05½	.06
60-62 400 endpoint	.05¾	.06	.05⅞	.06⅛	.05⅞	.06⅛
64-66 390 endpoint	.06¼	.06½	.06¼	.06½	.06¼	.06½
64-66 375 endpoint	.06¾	.06¾	.06½	.06¾	.06½	.06¾
68-70 360 endpoint	.06¾	.07⅛	.06⅞	.07⅛	.06⅞	.07⅛
64-66 437 endpoint (blend)	.05½	.06	.05½	.06	.05½	.06
***NORTH LOUISIANA—**						
58-60 437 endpoint (U. S. Motor)	.06¾	.07	.06¾	.07	.06¾	.07
***ARKANSAS—**						
58-60 437 endpoint (U. S. Motor)	.06¾	.07	.06¾	.07	.06¾	.07
PENNSYLVANIA—						
52-54 Naphtha	.06¾		.06¾		.07	
54-56 Naphtha	.07		.07		.07	
58-60 Gasoline	.07¼	.07½	.07¼	.07½	.07¼	.07½
60 Gasoline	.07½	.07¾	.07½	.07¾	.07½	.07¾
62 Gasoline	.08		.08		.07¾	.08
64 Gasoline	.08		.08	.08½	.08	
68-70 350 endpoint gasoline	.08¾		.08¾		.08¾	
CALIFORNIA—						
†58-60 437 endpoint (U. S. Motor) domestic	.09	.09½	.09	.09½	.09½	.10
†60-62 400 endpoint domestic gasoline	.09¾	.10¼	.09¾	.10¼		
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.05½	.05¾	.05½	.05¾	.06	.06¼
56-58 450 endpoint	.05¼	.05½	.05¾	.06	.05¾	.06
58-60 437 endpoint (U. S. Motor)	.05⅝	.06	.05¾	.06⅛	.05¾	.06¼
60-62 400 endpoint	.05¾	.06⅛	.05⅞	.06⅜	.06	.06½
64-66 375 endpoint	.06½	.06⅞	.06⅝	.06⅞	.06¾	.07
68-70 360 endpoint	.07	.07¼	.06⅞	.07⅛	.07	.07¼
64-66 437 endpoint (blend)	.05½	.06	.05½	.06	.05½	.06
GULF COAST (Export)—						
58-60 U. S. Motor	.07	.07½	.07	.07½	.08	
60-62 400 endpoint	.08	.08½	.08	.08½	.09	
61-63 390 endpoint	.08½	.09	.08½	.09	.09¼	
64-66 375 endpoint	.09	.09½	.09	.09½	.09½	

*Weighted average prices August 25, 18 and 11 as reported by representative refiners. Sales to jobbers only. †No sales reported. Prices show general market.

*Louisiana, Arkansas, Mississippi and East Texas delivery. †For local consumption.

NATURAL GASOLINE

	Aug. 26		Aug. 19		Aug. 12	
OKLAHOMA (Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.05½		.05½		.05½	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05½		.05½		.05½	
Grade B, 76-83.9, 375 e.p., rec. 85%	.05½		.05½		.05½	
Grade BB, 84-92, 375 e.p., rec. 85%	.05½		.05½		.05½	
Grade C, 80-92, 375 e.p., rec. 78%	.05½		.05⅝	.05½	.05⅝	.05½
NORTH TEXAS—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.05½		.05½		.05½	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05½		.05½		.05½	
Grade B, 76-83.9, 375 e.p., rec. 85%	.05½		.05½		.05½	
Grade BB, 84-92, 375 e.p., rec. 85%	.05½		.05½		.05½	
Grade C, 80-92, 375 e.p., rec. 78%	.05½		.05½		.05½	
NORTH LOUISIANA—						
Grade AA, 80-87, 375 e.p., rec. 90%	.05⅝	.05¾	.05½	.05⅝	.05½	.05⅝
Grade BB, 84-92, 375 e.p., rec. 85%	.05⅝		.05½		.05½	
Grade C, 80-92, 375 e.p., rec. 78%	.05⅝		.05½		.05½	
CALIFORNIA—						
75-78, 375-390 endpoint	.07½	.08	.07¼	.08	.07½	.08
CHICAGO DISTRICT (Based on Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.05½		.05½		.05½	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05½		.05½		.05½	
Grade BB, 84-92, 375 e.p., rec. 85%	.05½		.05½		.05½	

BURNING OIL

	Aug. 26		Aug. 19		Aug. 12	
OKLAHOMA (Group 3)—						
41-43 water white kerosene	.03	.03½	.03	.03½	.03	.03½
42-44 water white kerosene	.03½	.03¾	.03½	.03¾	.03½	.03¾
NORTH TEXAS—						
41-43 water white kerosene	.03	.03¼	.03	.03¼	.03	.03¼
40-41 water white kerosene	.02⅞	.03	.02⅞	.03	.02⅞	.03
***NORTH LOUISIANA—**						
41-43 water white kerosene	.04	.04¼	.04	.04¼	.04	.04¼
***ARKANSAS—**						
41-43 water white kerosene	.04	.04¼	.04	.04¼	.04	.04¼
PENNSYLVANIA—						
43 Kerosene prime white	.04¼		.04¼		.04¼	
45 Kerosene water white	.04⅝	.04¾	.04½		.04½	
46 Kerosene water white	.05	.05¼	.04¾	.05	.04¾	.05
300 Mineral Seal	.05½		.05½		.05½	
CALIFORNIA—						
38-40 Water white Kero. (high burning test)	.04½	.05	.04½	.05	.04	.04½
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white kerosene	.03	.03¼	.03	.03¼	.03	.03½
42-44 water white kerosene	.03½	.03¾	.03½	.03¾	.03½	.03¾
GULF COAST (Export)—						
41-43 prime white	.06		.06		.06	
41-43 water white	.07		.07		.07	

*Louisiana, Arkansas, Mississippi and East Texas delivery.

FUEL OIL

	Aug. 26		Aug. 19		Aug. 12	
OKLAHOMA (Group 3)—						
Below 18 Fuel Oil, per bbl.	.45	.50	.45	.50	.45	.50
18-22 Fuel Oil, per bbl.	.47½	.50	.47½	.50	.47½	.50
20-22 Fuel Oil, per bbl.	.50	.57½	.50	.57½	.50	.57½
22-26 Fuel Oil, per bbl.	.55	.60	.55	.60	.55	.60
24-26 Fuel Oil, per bbl.	.60	.65	.60	.65	.60	.65
26-30 Fuel Oil, per bbl.	.67½	.72½	.70	.75	.70	.75
28-30 Fuel Oil, per bbl.	.75	.80	.77½	.82½	.77½	.82½
32-36 Gas Oil (industrial)	.02⅛	.02¼	.02⅛	.02¼	.02⅛	.02¼
32-36 Gas Oil (straw color)	.02¼	.02½	.02¼	.02½	.02¼	.02½
36-38 Distillate	.02⅝	.02¾	.02⅝	.02¾	.02⅝	.02¾
38-40 Straw Distillate	.02¾	.03	.02¾	.03	.02¾	.03
NORTH TEXAS—						
Below 20 Fuel Oil, per bbl.	.40	.50	.40	.50	.40	.50
24-26 Fuel Oil, per bbl.	.60	.65	.60	.65	.60	.65
32-36 Gas Oil (industrial)	.02	.02⅛	.02	.02⅛	.02	.02⅛
38-40 Straw Distillate	.02¾	.03	.02¾	.03	.02¾	.03
***NORTH LOUISIANA—**						
18-20 Fuel Oil, per bbl.	.75	.80	.75	.80	.75	.80
30-32 Gas Oil	.02⅜	.02¾	.02⅜	.02¾	.02⅜	.02¾
***ARKANSAS—**						
33-36 Distillate	.02¾	.03	.02¾	.03	.02¾	.03
30-32 Gas Oil	.02⅜	.02½	.02⅜	.02½	.02⅜	.02½
16-22 Refinery Fuel Oil, per bbl.	.60	.70	.60	.70	.60	.70
GULF COAST (South Texas)—						
Gas Oil	.03¾	.04	.03¾	.04	.03¾	.04
Bunker C Fuel (cargo lots), per bbl.	.75	.80	.75	.80	.75	.80
Bunker C Fuel (small lots)	1.05	1.10	1.05	1.10	1.05	1.10
PENNSYLVANIA—						
30-34 Fuel Oil	.03¼		.03¼		.03	.03¼
36-40 Fuel Oil	.03¾		.03½	.03¾	.03¼	.03½
CALIFORNIA—						
33-36 Distillate	.02¼	.02½	.02¼	.02½	.02½	.03
26-32 Distillate	.01¾	.02	.01¾	.02	.01¾	.02
15-20 Fuel Oil, Bunker (at tidewater)	.65	.75	.65	.75	.65	.75
15-20 Fuel Oil (cargo lots), per bbl.	.60	.70	.60	.70	.60	.70
27 plus Diesel, per bbl.	.80	.90	.80	.90	.80	.90
CHICAGO DISTRICT (Based on Group 3)—						
22-26 Fuel Oil, per bbl.	.55	.60	.55	.60	.57½	.62½
18-22 Fuel Oil, per bbl.	.42½	.50	.47½	.50	.47½	.52½
28-30 Fuel Oil, per bbl. (zero)	.75	.80	.75	.80	.77½	.82½
32-36 Gas Oil (zero)	.02¾	.02⅝	.02¾	.02⅝	.02½	.02⅝
32-36 Gas Oil (industrial)	.02⅛	.02⅜	.02⅛	.02⅜	.02⅛	.02¼
38-40 Straw Distillate	.02⅝	.02⅞	.02⅝	.02⅞	.02¾	.02⅞

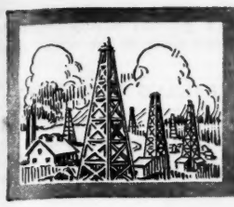
*Louisiana, Arkansas, Mississippi and East Texas delivery.

LUBRICATING OIL AND WAX

	Aug. 26		Aug. 19		Aug. 12	
OKLAHOMA (Group 3)—						
100 vis., 2 color, 20-25 cold test	.06	.06½	.06	.06½	.06	.06½
100 vis., 3 color, 20-25 cold test	.05½	.06	.05½	.06	.05½	.06
150 vis., 3 color, 20-25 cold test	.07¼	.07½	.07¼	.07½	.07¼	.07½
150 vis., 4 color, 20-25 cold test	.07		.07		.07	
180 vis., 3 color, 23-28 cold test	.08½	.09	.08½	.09	.08½	.09
180 vis., 4 color, 23-28 cold test	.08¼	.08½	.08¼	.08½	.08¼	.08½
180 vis., 5 color, 23-28 cold test	.08		.08		.08	
200 vis., 3 color, 23-28 cold test	.10	.10½	.10	.10½	.10	.10½
200 vis., 4 color, 23-28 cold test	.09½	.10	.09½	.10	.09½	.10
200 vis., 5 color, 23-28 cold test	.09¼	.09½	.09¼	.09½	.09¼	.09½
240 vis., 3 color, 25-30 cold test	.13½	.14	.13½	.14	.13½	.14
240 vis., 4 color, 25-30 cold test	.12½	.13	.12½	.13	.12½	.13
240 vis., 5 color, 25-30 cold test	.11½	.12	.11½	.12	.11½	.12
280 vis., 3 color, 25-30 cold test	.15½	.16	.15½	.16	.15½	.16
280 vis., 4 color, 25-30 cold test	.14½	.15	.14½	.15	.14½	.15
280 vis., 5 color, 25-30 cold test	.13½	.14	.13½	.14	.13½	.14
Cylinder Stocks:						
600, steam refined, light green	.08	.12	.08	.12	.08	.12
600, steam refined, dark green	.06	.08	.06	.08	.06	.08
190-200 vis., D color, Bright Stock	.30		.30		.30	
150-160 vis., D color, Bright Stock	.25		.25		.25	
*150-160 vis., D color, Bright Stock	.23	.25	.23	.25	.23	.25
150-160 vis., E color, Bright Stock	.23		.23		.23	
Waxes:						
124-126 White Crude Scale Wax	.02	.02⅛	.02	.02⅛	.02	.02⅛
PENNSYLVANIA—						
34 Neutral	.05¾	.07	.05¾	.06½	.05¾	.07
34 Sundebloom	.05½		.05½		.05½	
36 Miners' Neutral	.05¾		.05¾		.05¾	
150, 3 color	.12	.14	.12	.14	.12	.14
180, 3 color	.16	.17	.16	.17	.16	.18
200, 3 color	.18½	.20	.18½	.20	.18½	.21
220, 3 color	.23		.23		.23	.24
600, steam refined	.11	.11¾	.11	.11½	.11	.11½
635, steam refined	.13½	.17	.13½	.17	.13½	.17
650, steam refined	.15½	.17	.15½	.17	.15½	.16
600, Pennsylvania Flash	.18	.19½	.18	.19½	.18	.19
630, Pennsylvania Flash	.26	.28	.26	.28	.26	.27
600, E filtered	.15½	.17	.15½	.17	.16	.17
600, D filtered	.19	.21	.19	.21	.19	.22
Pennsylvania Bright Stocks	.25		.25		.25	
*122-124 White Crude Scale Wax	.02¼		.02¼		.02¼	
124-126 White Crude Scale Wax	.02¼		.02¼		.02¼	
GULF COAST (South Texas)—						
100 vis., 2-2½ color, pale oil	.06½	.06¾	.06½	.06¾	.06½	.06¾
200 vis., 3 color, pale oil	.09½		.09½		.09½	
300 vis., 3 color, pale oil	.10¾		.10¾		.10¾	
500 vis., 3½ color, pale oil	.12	.12¾	.12	.12¾	.12	.12¾
750 vis., 3½ color, pale oil	.13½		.13½		.13½	
1,200 vis., 3½ color, pale oil	.16		.16		.16	
2,000 vis., 6 plus color, red oil	.17		.17		.17	
200 vis., 5-6 color, red oil	.08¾	.09	.08¾	.09	.08¾	.09

*High cold test. All bright stock prices are for domestic movement.

*At New York.



REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

300 vis., 5-6 color, red oil	.10	.10¼	.10	.10¼	.10	.10¼
500 vis., 5-6 color, red oil	.11¼		.11¼		.11¼	
750 vis., 5-6 color, red oil	.12¾	.13	.12¾	.13	.12¾	.13
1,200 vis., 5-6 color, red oil	.15		.15		.15	
2,000 vis., 4 color, pale oil	.17		.17		.17	
200 vis., 2½ color, filtered oil	.11	.12	.11	.12	.11	.12
300 vis., 2½ color, filtered oil	.12	.13	.12	.13	.12	.13
CALIFORNIA—						
130 vis., 2½-3 color	.10¼	.10½	.10¼	.10½	.10¼	.10½
200 vis., 2½-3 color	.11½	.11¾	.11½	.11¾	.11½	.11¾
300 vis., 3-3½ color	.13	.13½	.13	.13½	.13	.13½
350 vis., 3½-4 color	.13½	.13¾	.13½	.13¾	.13½	.13¾
400 vis., 3½-4 color	.15	.15½	.15	.15½	.15	.15½
Red Neutral:						
200 vis., 4½-5 color	.11	.11¼	.11	.11¼	.11	.11¼
300 vis., 5-6 color	.12	.12¼	.12	.12¼	.12	.12¼
400 vis., 5-6 color	.13¼	.14	.13¼	.14	.13¼	.14
500 vis., 4½-5 color	.15¼	.15½	.15¼	.15½	.15¼	.15½
500 vis., 5-6½ color	.15	.15¼	.15	.15¼	.15	.15¼
600 vis., 6½ plus color	.16	.16¼	.16	.16¼	.16	.16¼

Note—Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	Aug. 26		Aug. 19		Aug. 12	
Gasoline, U. S. Motor, 58-60, 437 e.p.	.08	.10	.08	.10	.08	.10
Kerosene, water white, 41-43	.06¾		.06¾		.06¾	
*Fuel Oil, Bunker "C," 41-43	1.15		1.15		1.15	
Fuel Oil, Diesel, 28-30, per bbl.	2.00		2.00		2.00	
Gas Oil, 32-36 gravity	.04¾	.05¼	.04¾	.05¼	.04¾	.05¼
25 pale Paraffin Oil, tank car	.10¼		.10¼		.10¼	
28 pale Paraffin Oil, tank car	.07¼		.07¼		.07¼	
280 red Paraffin Oil, tank car	.12½		.12½		.12½	
250 red Paraffin Oil, tank car	.11½		.11½		.11½	
225 red Paraffin Oil, tank car	.10		.10		.10	
200 red Paraffin Oil, tank car	.09¼		.09¼		.09¼	
Refined Wax:						
120-122 a.m.p., per lb.	.03		.03		.03	
125-127 a.m.p., per lb.	.03⅜		.03⅜		.03¼	
130-132 a.m.p., per lb.	.03⅝		.03⅝		.03⅝	
133-135 a.m.p., per lb.	.04½		.04½		.04½	
135-137 a.m.p., per lb.	.04⅝		.04⅝		.04⅝	
Petrolatum in barrels, in carload lots, per pound:						
Dark Green	.01¾		.01¾		.01¾	
Amber	.03¼		.03¼		.03¼	
Extra Amber	.03⅜		.03⅜		.03⅜	
Cream	.06		.06		.06	
Lily White	.06⅝		.06⅜		.06⅜	
Snow White	.08		.08		.08	

*Lighterage 5.0 cents a barrel extra.

NEW YORK (BAYONNE) EXPORT PRICES

	Aug. 26		Aug. 19		Aug. 12	
600, steam refined cylinder stocks, in bbls.	.17½		.17½		.18½	.19
635, steam refined	.19½		.19½		.20½	.21
650, steam refined	.23½		.23½		.24½	.25
600, Pennsylvania Flash	.28		.28		.28	
630, Pennsylvania Flash	.31		.31		.31	
600, Warren E	.25		.25		.26	
600, Oil City E	.24		.24		.25	
Light 140-150 Bright Stocks	.32	.33	.32	.33	.33	
Dark 140-150 Bright Stocks	.30	.31	.30	.31	.31	

LOS ANGELES EXPORT PRICES

	Aug. 26		Aug. 19		Aug. 12	
Kerosene, water white	.03¾	.04½	.03¾	.04½	.03¾	.04½
*U. S. Motor Gasoline, 53-55, 437 e.p.	.06½	.06¾	.06½	.06¾	.06½	.06¾
*60-62 400 endpoint gasoline	.08½	.09	.08½	.09		

*Prices on coastwise shipments.

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

Oklahoma City—Same as other Mid-Continent price schedule except Empire Pipe Line Co. posted all oil 40 gravity and above at $1.43 on April 10.

Corsicana heavy (April 10, 1930).....$ .80

Other fields .....See gravity table

TEXAS PANHANDLE

Gray County, Wheeler County and Carson-Hutchinson Counties—See gravity table.

In Noel-McConnell district, Prairie Oil & Gas Co. posted April 10, below 30 degrees, 75½ cents, with 5-cent differential upward to 34-34.9, $1.00½, and then a 3-cent differential upward to 44 and above at $1.35½.

WEST TEXAS

Iatan*.....Same as North Texas

Crane-Upton-Crockett, Pecos, Winkler, Mitchell and Ector.....

.....See gravity table, Column 3

Howard and Glasscock.....

.....See gravity table, Column 9

Chalk† (April 10, 1930).....$ .75

*Includes Westbrook Field. †Posted by Humble Oil & Refining Co.

ARKANSAS-NORTH LOUISIANA

Smackover, below 24 gravity (April 11, 1930).....$ .90

Smackover, 24 gravity and above (April 11, 1930) 1.05

Carterville, Sarepta and Cotton Valley, below 36 gravity (April 11, 1930)..... .85

Bellevue (April 11, 1930)..... 1.15

Urania (April 11, 1930) ..... .95

East El Dorado (April 11, 1930)..... .90

Other fields.....See gravity table

Cotton Valley crude above 36 gravity takes same gravity price schedule as shown for North Louisiana and Arkansas crude in Mid-Continent gravity price table.

Note—Smackover, Cotton Valley and Bellevue posted by Standard Oil Co. Louisiana and Magnolia Petroleum Co.; Urania posted by Louisiana Oil Refining Corp.; East El Dorado posted by Magnolia Petroleum Co.

Grade A (April 10, 1930)*.....$1.15

Grade B, 25 degrees and upward.....

.....See gravity table

Jennings, La. (April 10, 1930)†..... 1.10

Refugio (light).....Same as Grade B

Refugio (heavy) (April 10, 1930)‖..... .85

Sorrento (April 10, 1930)‡..... 1.10

Markham (April 10, 1930)§..... .85

High Island (April 10, 1930)¶..... .95

*Humble Oil & Refining Co. †Gulf Pipe Line Co. ‡Sun Pipe Line Co. §Texas Pipe Line Co. ¶Posted by Gulf Pipe Line Co. ‖Humble Oil & Refining Co. and Gulf Coast Pipe Line Co.

ROCKY MOUNTAIN STATES

Ohio Oil Co.-Midwest Refining Co.

(Effective April 11, 1930)

Iles (Feb. 15, 1930).....$ .87

33 gravity and above..... .87

Under 33 gravity..... .65

Dutton Creek (Feb. 15, 1930)..... 1.25

Rock Creek, Wyo. 1.35

(Continued on Page 142)

CRUDE OIL GRAVITY TABLE

Gravity—	1 Okla.-Kans.	2 N. C. Texas No. La., Arkansas	3 Crane, Upton, Ector, Crockett, Winkler, Pecos, Mitchell, (West Texas) Lea, N. Mex.	4 Wheeler County (Texas Panhandle)	5 Gray County (Texas Panhandle)	6 Carson and Hutchinson (Texas Panhandle)	7 Salt Creek, Wyo.	8 Stephens, Ark.	9 Howard-Glasscock (West Texas)	10 Grade B Gulf Coast and Refugio Texas
Below 25	.75	.72	.65	....	....	....	..	....	.65	1.00
25 to 25.9	.80	.77	.68	....	....	....	....	....	.68	1 03
26 to 26.9	.85	.82	.71	....	....	....	....	....	.71	1 06
27 to 27.9	.90	.87	.74	....	....	....	....	.76	.74	1.09
28 to 28.9	.95	.92	.77	....	.75½	....	....	.81	.76	1.12
29 to 29.9	1.00	97	.80	.75½	.80½	....	1.00	.86	.78	1.15
30 to 30.9	1 05	1 02	.83	.80½	.85½	....	1.05	.91	.80	1.18
31 to 31.9	1.10	1 07	.86	.85½	.90½	.77½	1.10	.96	.82	1.21
32 to 32.9	1.15	1.12	.89	.90½	.95½	.82½	1.15	1 01	.84	1 24
33 to 33.9	1 18½	1 17	.92	.95½	1 00½	.87½	1 18½	....	.86	1 27
34 to 34.9	1 22	1 22	.95	1.00½	1.05½	.92½	1.22	....	.88	1 30
35 to 35.9	1 25½	1 25½	.98	1 04	1 09	.96	1.25⅛	....	.90	1.33
36 to 36.9	1.29	1 29	1.01	1.07½	1 12½	.99½	1.29	....	.92	1 36
37 to 37.9	1 32½	1.32½	....	1.11	1.16	1.03	1 32½	....	..	1 39
38 to 38.9	1 36	1.36	....	1.14½	1.19½	1 06½	....	....	....	1.42
39 to 39.9	1 39½	1.39½	....	1.18	1.23	1.10	....	....	....	1.44
40 to 40.9	1.43	1.43	....	1.21½	1.26½	1.13½	....	....	....	1 46
41 to 41.9	1.46½	1.46½	....	1 25	1.30	1 17	....	....	..	1 48
42 to 42.9	1.50	1.50	....	1 28½	1.33½	1.20½	....	....	..	1 50
43 to 43.9	1 53½	1.53½	....	1.32	1.37	1.24	....	..	..	1 52
44 and above	1.57	1 57	....	1.35½	1.40½	1 27½	....	....	....	1.54

Column 1, Note—Above prices posted April 10, 1930, by Carter Oil Co. (beginning at 25° and below), and by the Prairie Oil & Gas Co. and other purchasers beginning at 24° and below, the Magnolia Petroleum alone excepted. The Magnolia on April 10 posted the following prices: Below 26 gravity, 70 cents; 26-26.9, 76 cents; 27-27.9, 82 cents; 28-28.9, 88 cents; 29-29.9, 95 cents; 30-30.9, $1.02. From 31 and up and including 44° and above Magnolia followed Carter price schedule, but made its whole schedule apply to its gravity purchases in Kansas, Oklahoma and North Central Texas alike.

Column 2—Humble Oil & Refining Co. posted above prices April 10, 1930, and was followed by all other companies in Texas except Magnolia which posted a different price schedule than Humble up to 33.9° (See note in paragraph just above). The Texas Company posted North Louisiana and Arkansas on April 10, and Standard of Louisiana posted on April 11, followed by other companies, but Magnolia's price schedule begins with below 28 gravity at 87 cents. North Central Texas includes North Texas, Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Nocona, Moran and Corsicana light. Arkansas and Louisiana pools include Caddo, Bull Bayou, Crichton, Cotton Valley (above 36 gravity), DeSoto, Haynesville, Homer, El Dorado and Rainbow.

Column 3—Posted by Humble Oil & Refining Co. April 10, 1930, and Magnolia Petroleum Co., April 10, 1930.

Columns 4, 5 and 6—Humble Oil & Refining Co., Prairie Oil & Gas Co., Magnolia Petroleum Co., April 10, 1930.

Column 7—Midwest Refining Co., April 11. All crude over 37 gravity $1.32½

Column 8—Louisiana Oil & Refining Co., April 11.

Column 10—Humble Oil & Refining Co., April 10. Magnolia Petroleum Co. posted below 25 gravity, 65 cents, with 3-cent differential upward to and including 36 and above, which was posted at $1.01.

CALIFORNIA CRUDE OIL PRICES

Standard Oil Co.-Union Oil Co. (Effective March 11, 1930)

Gravity—	1 Seal Beach, Salt Lake, Newport, Summerland, Lawndale, Los Angeles, Richfield, Fullerton, Torrance, Olinda-Brea, Alamitos Heights, Huntington Beach, Signal Hill, Inglewood	2 Whittier, La Habra, Coyote Hills	3 Midway-Sunset, Elk Hills, Lost Hills, Belridge, Buena Vista Hills	4 Montebello	5 Santa Fe Springs (June 14, 1930)	6 Santa Maria, Coalinga	7 Wheeler Ridge, Fruitvale	8 Orcutt, Ventura, Rincon	9 Ventura Avenue (Nov. 8)	10 Ellwood Terrace	Athens, Rosecrans, Domingues
14 to 14.9	.70	.70	.55	.70	....	.55	.55	.55	.70	....	....
15 to 15.9	.70	.70	.55	.70	....	.55	.55	.55	.70	....	....
16 to 16.9	.70	.70	.55	.70	....	.55	.55	.55	.70	....	....
17 to 17.9	.70	.70	.55	.70	....	.55	.55	.55	.70	....	....
18 to 18.9	.76	.76	.62	.71	....	.62	.62	.65	.76	....	....
19 to 19.9	.82	.82	.70	.77	....	.70	.70	.70	.82	....	....
20 to 20.9	.88	.87	.78	.83	....	.78	.78	.78	.88	....	....
21 to 21.9	.94	.93	.86	.90	.92	.86	.86	.90	.91	....	....
22 to 22.9	1.00	.98	.94	.97	.95	.94	.94	.95	.94	....	....
23 to 23.9	1.07	....	1 02	1 05	1 01	1 02	1 02	1 02	1.00	....	....
24 to 24.9	1 14	....	1.09	1 11	1.07	1.07	1.07	1 10	1.07	....	1.14
25 to 25.9	1.21	....	1.16	1 17	1 13	1 12	1.12	1 18	1.14	....	1 19
26 to 26.9	1.28	....	1.23	1.23	1.19	1 17	1.17	1.26	1.21	....	1.24
27 to 27.9	1.35	....	1.30	1.29	1 25	1 23	1.22	....	1 28	....	1.29
28 to 28.9	1.42	....	1 35	1 35	1.31	1.27	....	....	1.35	....	1.34
29 to 29.9	1 46	....	1.41	1.38	1.37	1.31	....	....	1.39	....	1.39
30 to 30.9	1.50	....	1 47	1.41	1.43	1.35	....	....	1.43	....	1.45
31 to 31.9	1.55	....	1.53	....	1.49	1.39	....	....	1.48	....	1 51
32 to 32.9	1 60	....	1.59	....	1.55	1.43	....	....	1 53	....	1.57
33 to 33.9	1 65	....	1.65	....	1 60	1.47	....	....	1 59	....	1 64
34 to 34.9	1 70	....	....	....	1.65	1 51	....	....	1 65	1 32	1.71
35 to 35.9	1.75	....	....	....	1.70	1.55	....	....	1.71	1.39	1.78
36 to 36.9	1.80	....	....	....	1.75	....	....	....	....	1 46	1.84
37 to 37.9	1 85	....	....	....	1 80	....	....	....	....	1 53	1 90
38 to 38.9	1.90	....	....	....	1.85	....	....	....	....	1.60	1 96
39 to 39.9	....	....	....	....	1.90	....	....	....	....	1 66	2.02
40 to 40.9	....	....	....	....	....	....	....	....	....	1 72	2 08
41 to 41.9	....	....	....	....	....	....	....	....	....	1.78	2.14
42 to 42.9	....	....	....	....	....	....	....	....	....	1 84	2 20

Kern River, Newhall-McKittrick, Mount Poso and Round Mountain, 11 to 13.9 gravity, 50 cents; 14 gravity and above 55 cents, effective March 11. On March 11, the Union Oil Co. posted Midway-Sunset, Elk Hills, Buena Vista, Lost Hills and Coalinga crude as follows: 11 to 13.9 gravity at 50 cents.

Column 1—Signal Hill, Seal Beach, Huntington Beach and Alamitos Heights crude, 14 to 32.9 gravity, inclusive; Richfield, Olinda-Brea and Fullerton, 14 to 30.9 gravity; Torrance and Inglewood, 14 to 28.9 gravity.

Column 2—Whittier crude, 14 to 22.9 gravity; Coyote Hills, 14 to 30.9 gravity.

Column 3—Kern River, Newhall and McKittrick, 11 to 19.9 gravity; Midway-Sunset, Buena Vista and Elk Hills, 11 to 33.9 gravity; Lost Hills, 11 to 34.9 gravity; oil below 14 gravity posted at 50 cents.

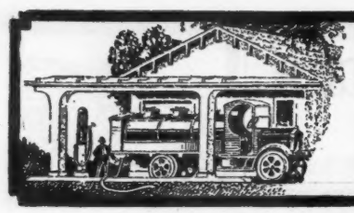
Column 5—Price change posted by Standard of California, June 14.

Column 6—Oil below 14 gravity posted at 45 cents.

Columns 8 and 9—Posted by Union Oil Co. only.

Column 10—Standard posted price f.o.b. tanker.

Kettleman Hills, 55 gravity and above, $1.65 (posted by Standard Oil Co. of California).



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns August 26

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Chicago†	18 0	19 0	3.0	13 0
Decatur, Ill.	18.2	19 2	3 0	13.1
E. St. Louis	17.4	18.4	3 0	12 2
Joliet	18.4	19 4	3 0	13.3
Peoria	18 2	19.2	3 0	13.1
Quincy	18 2	19.2	3 0	12 9
Davenport, Ia.	18 5	19 5	3.0	13 2
Des Moines	18.5	19 5	3 0	13.3
Keokuk	18.5	19.5	3 0	13.3
Sioux City	18 1	19 1	3 0	12.9
Duluth, Minn.	19.5	20 5	3.0	13 9
Mankato	19.1	20.1	3 0	13 7
Minneapolis	19.2	20.2	3 0	13.9
LaCrosse, Wis.	18 2	19.2	2 0	14.0
Milwaukee	17 1	18 1	2 0	12 9
Madison	17.3	18 3	2.0	13 1
Detroit, Mich.	18 8	19 8	3.0	14.7
Grand Rapids	18 7	19.7	3 0	14.6
Saginaw	18.9	19.9	3.0	14 8
Evansville, Ind.	19.0	20 0	4 0	14 0
Fort Wayne	19 4	20 4	4 0	14.4
Indianapolis	19 2	20.2	4.0	14.2
South Bend	19 4	20 4	4.0	14 4
Fargo, N. D.	20.9	21 9	3 0	15.9
Huron, S. D.	20.3	21.3	4 0	14 7
Sioux Falls	19.1	20 1	4 0	14 4
K. C., Mo.*	17.9	18.9	3 0	11 6
Springfield*	17.8	18 8	3 0	12.5
St. Louis*	16 9	17 9	2.5	12 3
St. Joseph	17 5	18.5	2.0	12 2
Wichita, Kans.	16 8	14 8	3.0	11.8
Bartlesville, Ok.	17.5	20 5	4 0	11.5

*State tax 2 cents; remainder city tax.

†Effective June 3, discounts on Q.D.A. in Chicago district 4 cents off service station price on purchases of 500 gallons or more per month and 5 cents on purchases of 1,000 gallons or more per month.

Effective August 5, the following quantity discounts from the service station prices are allowed on monthly sales of gasoline: 500 gallons or more, 3 cents; 75,000 gallons or more, 4½ cents. Discounts are allowed each month and they are not cumulative. Delivery tickets showing date and quantity delivered must be sent to the seller before the tenth of the month to secure the discount on the previous month's purchases.

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Denver, Colo.	16.0	19.0	4.0	15 5
Pueblo	17.0	20.0	4 0	15.5
Grand Junction	21 5	24 5	4.0	19.0
Casper, Wyo.	19 0	22.0	4.0	14 0
Cheyenne	20 5	23 5	4 0	15 5
Butte, Mont.	24.5	22.0	5.0	20.0
Billings	24 5	27.5	5 0	18 5
Great Falls	24.5	27 5	5 0	20 0
Helena	24.5	27.5	5 0	20 0
Salt Lake, Utah	20 0	23 0	3 5	17.0
Albu'que, N. M.	14.0	18.0	5.0	15.0
Boise, Idaho	23 5	26 5	5.0	19 0
Twin Falls	23.5	27 5	5.0	19.0

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
N. Orleans, La.*	14 5	14 5	5.0	12.0
Baton Rouge	15 5	16.0	4 0	14 0
Alexandria†	17.5	18.0	5.0	13 0
Lafayette*	17.5	18 0	5 0	13.0
Lake Charles*	17.5	18 0	5 0	13 0
Shreveport	15.5	17.5	4 0	13 0
Knoxv'le, Tenn.	19 5	20.0	5 0	15 0
Memphis	17.0	17.0	5.0	12 5
Chattanooga	19.5	20 0	5 0	13.0
Nashville	17 0	17.0	5 0	15 0
Bristol	19 5	21.5	5.0	14 0
Lt. Rock, Ark.	17.0	17.0	5.0	13.0

*Includes city tax of 1 cent. Louisiana kerosene prices include 1-cent state tax. New Orleans kerosene price also includes 1-cent city tax.

†Gasoline price at Alexandria includes 1-cent tax in parish of Rapides.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Dallas, Tex.	14.0	18.0	4.0	12.0
Fort Worth	14 0	17 0	4.0	11.0
Houston	15 0	19 0	4 0	11 0
San Antonio	13 0	17.0	4.0	11 0
El Paso	16 0	20 0	4 0	13.0
Texarkana	14 0	15.0	4.0	12.0
Muskogee*	16.0	19.0	4.0	9 0
Okla. City*	15 0	18 0	4 0	10 0
Tulsa*	16.0	20.0	4 0	10.0
Ft. Smith, Ark.	14 0	15 0	5.0	12.0
Little Rock	17.0	17.0	5.0	13.0

*Gasoline tank wagon price to dealers 2 cents under posted tank wagon.

PENNSYLVANIA—DELAWARE AND PART NEW ENGLAND

The Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Pittsburgh, Pa.	16 0	*21 0	...	13 0
Philadelph'a	16.0	*21 0	...	13.0
Scranton	16.0	*21 0	...	13.0
Allentown	16 0	*21.0	...	13 0
Altoona	16 0	*21 0	...	13.0
Erie	15 0	*19.0	...	13 0
Dover, Del.	19.0	21 0	3 0	13.0
Wilmington	19.0	21 0	3.0	13 0
Springf'd, Mass.	17 5	19 5	2 0	12 5
Worcester	17.3	19.3	2.0	12 3
Boston	16.5	18.5	2 0	11 5
Providence, R.I.	16 7	18 7	2.0	11 7
Hartford, Conn.	17.5	19 5	2.0	12 5
New Haven	17 6	19 6	2 0	12 6

*Includes tax of 3 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the State. The Atlantic Refining Co. recognizes a 2-cent per gallon discount on gasoline from its posted tank wagon markets on sales to dealers for purposes of resale. The Atlantic Refining Co. also recognizes a maximum discount of 2 cents per gallon on gasoline to commercial accounts under contract for one year.

PACIFIC COAST TERRITORY

Standard Oil Co. (California)

	Gasoline			Kero.
	Wholesale price	Retail price	Incl'ds tax of	tank wagon
Fresno	19.0	17.0	3.0	17 0
San Francisco	19 0	12.0	3.0	15.5
Los Angeles	18 5	16 5	3 0	15.5
Reno, Nev.	24 0	22.0	4 0	19 0
Portland, Ore.	20 5	18 5	4.0	16.5
Seattle, Wash.	19.5	12 5	3.0	16.5
Tacoma	19 5	17.5	3 0	16 5
Spokane	21 5	21 5	3 0	20.5
Phoenix, Ariz.	17.0	20.0	4.0	20.0

Above prices are at company's plant or depots as company does not operate stations. A 6-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent.

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Omaha	19.25	19.25	4 0	13 25
McCook	20 75	22 75	4.0	14.75
Norfolk	19.75	21.75	4 0	13.75
N. Platte	20.75	22 75	4 0	14 50
Scottsbluff	17.00	17 00	4.0	14.25

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Ohio points*	20.0	21.0	4.0	†14.0

*Dealers and commercial accounts 2 cents under tank wagon.

†Service station price 16 cents.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Albany, N. Y.	17.6	19 6	2.0	15 6
New York*	16 3	18.3	2 0	14 3
Buffalo	17 8	19 8	2.0	14 8
Rochester	18.0	20 0	2 0	14.0
Syracuse	18.8	20 8	2.0	14 8
Boston, Mass.	16 5	18.5	2.0	13 5
Augusta, Me.	19 8	21.8	4 0	14 8
Manch't'r, N. H.	19.4	21 4	4 0	14.0
Burlington, Vt.	19.6	21.6	4.0	15 3

*Prices in steel barrels.

STANOLIND FURNACE OIL IN CHICAGO

Less than 100 gallons	9.0
100 to 349 gallons	8.0
350 gallons or more	7.5

Note—Outside Chicago furnace oil discount of 1 cent per gallon is given on deliveries of 100 to 349 gallons and 1½ cents on deliveries of 350 gallons or more.

NAPHTHA

	Tank wagon	Tank car
Oleum spirits	14.7	10.0
V. M. & P. naphtha	16 7	12.0
Cleaner's naphtha	17 0	14 9
Stanisol	17.0	15.4

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlantic City	16.5	18 5	2.0	13 5
Newark, N. J.	15.5	17 5	2.0	12.5
Annapolis	18.0	20.0	4.0	13 0
Baltimore	17 2	19 2	4.0	10.5
Cumberland	19 0	21.0	4 0	14.0
Wash'gton, D.C.	15 7	17.7	2.0	12 7
Danville, Va.	19.8	21 8	5 0	13.8
Norfolk	18 3	20.3	5 0	11 0
Petersburg	19 3	21 3	5.0	13.3
Roanoke	19.0	20 0	5 0	14.0
Richmond	18.7	20.7	5.0	12 7
Charles'n, W.Va.	18.5	20 5	4 0	12 5
Keyser	19.1	21 1	4 0	14.1
Parkersburg	17 2	19 2	4 0	11.2
Wheeling	18 4	20 4	4.0	12 4
Charlotte, N. C.	20.3	22 3	5 0	14.3
Hickory	20 6	22 6	5 0	14.6
Mt. Airy	20 5	22 5	5.0	14 5
Salisbury	20 5	22.5	5.0	14.5
Charleston, S.C.	19.3	21 3	6 0	12.3
Columbia	21.2	23.2	6 0	14.2

A 2-cent per gallon discount off the gasoline tank wagon price is offered to dealers.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlanta, Ga.	19 0	21 0	6 0	14 5
Augusta	22.0	24 0	6 0	15.5
Macon	20 0	22.0	6.0	13 0
Savannah	20 0	22.0	6 0	14 0
Birm'ham, Ala.	16.0	18 0	5.0	14.5
Mobile	18.0	18 0	4 0	13 5
Montgomery	19 0	21.0	4.0	15 0
Clarks'le, Miss.	19 0	21 0	5.0	12 5
Jackson	17.0	19.0	5.0	13 0
Natchez	19.0	21 0	5 0	13 0
Gulfport	20.5	22.5	5 0	13 0
Vicksburg	19 0	21 0	5.0	13.0
Jack'ville, Fla.	19 0	21 0	6.0	14 0
Miami	21 0	23 0	6.0	14.0
Pensacola	19 0	19 0	6 0	13.5
Tampa	20 0	22 0	5.0	13.0
Lexington, Ky.	19 0	20 0	5 0	14.5
Covington	20 0	22.0	5.0	14 5
Louisville	18.0	20 0	5 0	13 0
Ashland	18.0	20.0	5 0	15 0
Catlettsburg	18.0	20.0	5.0	15.0

In addition to the state tax of 4 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and one-half on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. To Pensacola, Birmingham and Mobile state taxes add 1-cent levy tax. To Gulfport state tax add privilege tax of 2 cents.

Effective April 2, price to dealers 2 cents under posted tank wagon price.

CRUDE OIL PRICE CHANGES

Effective August 22, the Joseph Seep Purchasing Agency increased the price of Pennsylvania grade oil in Eureka Pipe Line lines 25 cents to $2.15 per barrel; in Southwest Pennsylvania lines, 25 cents to $2.25 per barrel; in National Transit Co. lines, 25 cents to $2.20 per barrel. On same date, Tide Water Pipe Co. increased the price of Pennsylvania grade oil produced in Bradford, Pa., Field, 35 cents to $2.50 per barrel, and in Allegany, N. Y., Field, 35 cents to $2.50 per barrel.

Effective August 21, Pure Oil Co. reduced Midland, Mich., crude oil from $1.45 a barrel to $1.30 a barrel, a cut of 15 cents per barrel.

Effective August 21, the Humble Oil & Refining Co. reduced the price of Pettus, Bee County, Texas, crude oil 25 cents per barrel, or from $1.40 to $1.15 per barrel.

PRODUCTION OF SHALE OIL

Production work has been started on the construction of a shale oil distilling plant with a daily capacity of 500 tons of shale, according to reports from Tallinn, Estonia. The company is said to be negotiating with a foreign financial group on the financing of the new plant. It has already obtained a contract from the Estonian Government for the supply of shale oil to the Estonian railways, which plan a gradual change from the use of coal and shale to the use of shale oil as fuel.

NEW ZEALAND CUTS DUTY

A tariff reduction from 7d to 6d per imperial gallon of gasoline imported into New Zealand was put into effect August 16. The 7d rate had been in effect since July 23 last.

CRUDE OIL PRICES

(Continued from Page 141)

Salt Creek	See gravity table
Big Muddy	1.38
Grass Creek, heavy (July 27, 1928)	.90
Grass Creek, light	1.55
Mule Creek (May 21, 1929)	1.20
Elk Basin	1.56
Lance Creek	1.63
Poison Spider (March 14, 1927)	1.00
Notches (March 14, 1927)	.65
Rex Lake (February 22)	1.10
Osage	1.62
Lost Soldier (contract, May 23)	1.00
Hamilton Dome (March 14, 1927)	.85
Greybull (April 11, 1930)	1.55
Four Bear (May 31, 1929)	.85
Cat Creek	1.55
Pondera (Montana) (April 10, 1930)	1.55
Sunburst (Montana) (Feb. 15, 1930)	1.65
Hogback (Feb. 15, 1930)	1.40
Artesia (New Mexico)	1.05
Lea County	See gravity table

Note—Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies posted Grass Creek light and Elk Basin.

SOUTH CENTRAL AND SOUTHWEST TEXAS

Darst Creek (April 10, 1930)*	$1.15
Luling (April 10, 1930)	.85
Mirando (April 10, 1930)†	.85
Pettus (Aug. 21, 1930)§	1.15
Salt Flat (April 10, 1930)§	1.15
Thrall†	
Lytton Springs (Lockhart). See gravity table	
Somerset (April 10, 1930):	
Below 33 gravity	$1.15
33 to 33.9 gravity	1.17
34 to 34.9 gravity	1.19
35 to 35.9 gravity	1.21
36 to 36.9 gravity	1.23
37 to 37.9 gravity	1.25
38 gravity and above	1.27

*Posted by Humble Oil & Refining Co. and Magnolia Petroleum Co. †Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Central Pipe Line Co. ‡Thrall prices same as North Central Texas less 19½ cents per cwt. freight. §Humble Oil & Refining Co.

EASTERN STATES

Joseph Seep Purchasing Agency

(Effective August 22, 1930)

Seep Purchasing Agency withdrew from Bradford and Allegany Fields as a purchaser on May 16.

Penna Grade Oil in National Transit Lines (Pennsylvania)	$2.20
Penna Grade Oil in Southwest Pennsylvania Lines (Pennsylvania)	2.25
Penna Grade Oil in Eureka Pipe Line Lines (West Virginia)	2.15
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio) (July 11, 1930)	1.75
Corning Grade Oil in Buckeye Pipe Line Co.'s Lines (Aug. 1, 1930)	1.50
Somerset Oil in Eureka Pipe Line Lines (Kentucky) (Aug. 1, 1930)	1.14
Ragland Grade Oil in Cumberland Pipe Lines (Kentucky) (Aug. 1, 1930)	1.30
Wayne District Oil in Cumberland Pipe Lines (April 11, 1930)	1 34

Tide Water Pipe Co.

Bradford district (Aug. 22)	2.50
Allegany district (Aug. 22)	2.50

Pure Oil Co.

Cabin Creek, W. Va. (Aug. 22)	2.40
Kelly Creek, W. Va. (Aug. 22)	2.25
Bradford Hollow, W. Va. (Aug. 22)	2.25

MIDDLE WESTERN STATES

Ohio Oil Co.

(Effective April 11, 1930)

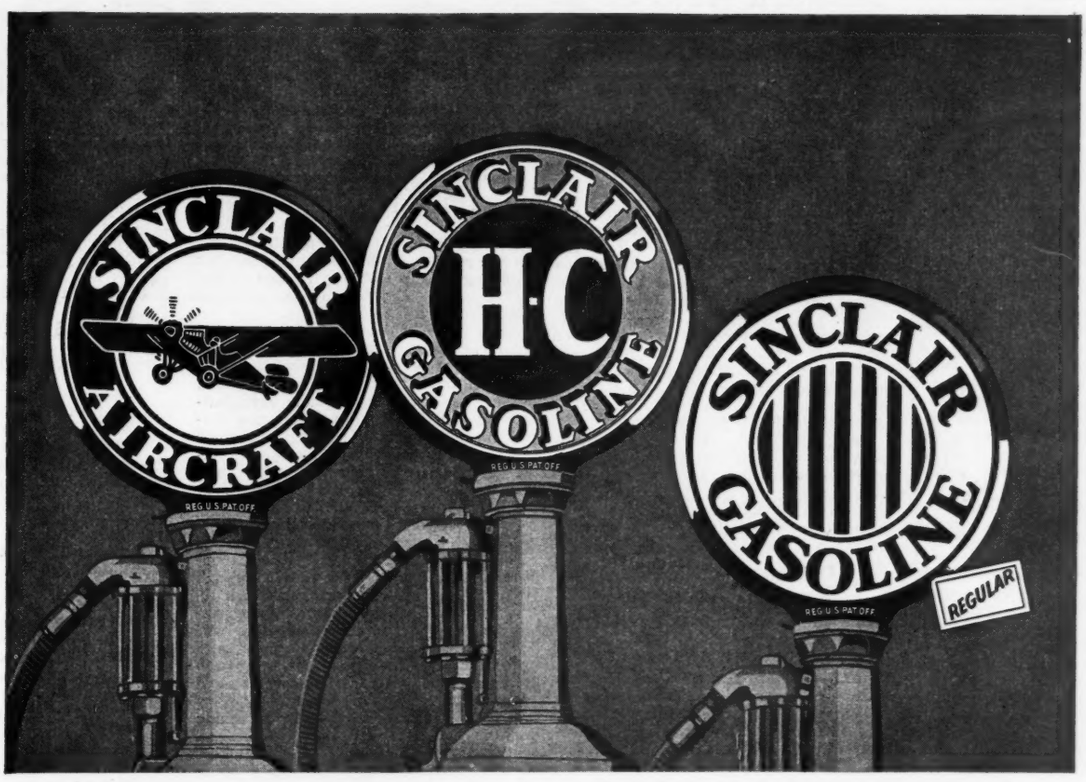
Lima (June 26, 1930)	$1.55
Wooster (June 26, 1930)	1.70
Illinois	1.65
Indiana (June 26, 1930)	1 32
Princeton	1 65
Plymouth	1.23
Western Kentucky	1.55
Midland, Mich.* (Aug. 21)	1.30
Dundee, Mich. (April 16)‖	
	Same as Mid-Continent gravity scale
Upper and Lower Traverse Sands, Mich. (April 16)‖	
	Same as Mid-Continent gravity scale
Saginaw, Mich. (April 11)†	
	Same as Mid-Continent gravity scale
Cumberland, Clay, Barren, Clinton and Monroe Counties, Kentucky (March 15)†	1 50
Oil City, Ky. (July 28, 1930)§	1 35
Oil Springs (Canada) (June 28, 1930)¶	2 02
Petrolia (Canada) (June 28, 1930)¶	1.96

*Posted by Pure Oil Co. †Posted by Sun Oil Co. ‡Posted by Paragon Development Co. §Posted by Stoll Oil Refining Co. ¶Posted by Imperial Oil Co., Ltd. ‖Posted by Standard of Indiana for boat shipment. Local refiners posted Mid-Continent prices on April 11.

MEXICAN CRUDE

Panuco*	$0.68

*F.o.b. ship, based on July transactions.



Here's the new way to sell gasoline . . . the *sure way* to increase your gallonage . . .

SINCLAIR THREE-GAS SERVICE

Today, with so many different engines on the road and so many different motoring conditions everywhere, no one kind of gasoline can be best for all engines. Today, it takes three different *kinds* to meet all demands—and you can satisfy these three demands with Sinclair Three Gas Service.

Here are the three kinds of gasolines for all the different motoring needs.

For the motorist who wants quick starting, zooming acceleration, flashy stop-and-go action in traffic, with brilliant performance along the highway, here's Sinclair Aircraft Gasoline, the *Ace* of high test gasolines. Sinclair Aircraft is the Ace of high test gasolines because it is specially manufactured at Sinclair Refineries, meeting the requirements of the Federal Specifications Board for Aviation Gasoline—domestic grade—and gives sustained power. Due to its careful fractionation it is free from dissolved gases which cause gas locks, uneven distribution, galloping and engine balk.

Or if a customer wants high-compression performance, who wants to stop knocks and take the hills in high—without a complaint from the engine, here's H-C Gasoline, *all* gasoline—nothing added.

And if he prefers to pay three cents less per gallon, here's Sinclair Regular Gasoline full of eager power—full, too, of economy and mileage. The quality gasoline at a popular price.

They're *all* gasoline—nothing added—and they are three remarkable fuels! Let your customers *select* their gasoline from Sinclair Three-Gas Service—you'll get their business and keep it!

SINCLAIR REFINING COMPANY, INC.
45 Nassau Street, New York
Atlanta, Chicago, Houston, Kansas City

TEXAS COMMISSION REVISES PRORATION

(Continued from Page 37)

theory which has been adopted over the world. Oklahoma has gone further than Texas. California has reduced to 100,000 bbls. under demand, while Texas production has just about equaled consumption.

"The problem here seems to be whether the commission has authority to issue this order. I don't know whether it has. I hope it has and it shall be our policy not to challenge its authority for the good of the State, the Nation and the individual operator.

"The question is not whether we are attempting to fix the price; it's whether we are going to let price fix production and lead us into indiscriminate, wasteful production. The Gulf Coast, which, it has been said, is operated so efficiently, was at one time the scene of the greatest waste in the United States and that waste will come again if we allow price to govern production. And every operator here can sell all the oil he can get if he will sell below the market."

The Prairie and Humble and some of the other pipe line purchasers of oil said they were willing to abide by any proration that did not produce more oil than they could handle, but were against limits that would cause oil to go into storage. They urged the commission to hold the limit to the amount of oil that could be handled and run out of the several fields. In that event, it was argued, there would be real conservation based on effective proration.

University Contract

The terms of the contract between the University of Texas and its lessees became known in the report of David Donoghue, technical advisor to the joint committee of the Independent Petroleum Association, Texas division of the Mid-Continent Oil and Gas Association and the independent purchasers of crude oil.

The contract is to run during the life of the leasehold. The university is to receive a royalty based on a price averaged by the posted quotations of the Prairie, Texas, Gulf, Humble and Magnolia companies in the Mid-Continent, Kansas, Oklahoma and Texas, north of a line running across the State from Laredo through San Antonio, Austin and Nacogdoches. The average price is better than that in the western part of the State, but slightly less than the Mid-Continent average. On oil of 37-37.9 gravity, Big Lake is $1.1678 a barrel, Mid-Continent is $1.325 and Texas Panhandle $1.03 to $1.16; gravity of 44 and over, the prices, respectively, are $1.4128, $1.57 and $1.27 to $1.355 a barrel.

The contract calls for 20,000 bbls. daily. All more than 20,000 to be stored until each producer has 150,000 bbls. and the excess over that is to be considered free oil.

There are but two operators in the field, said the report, the Big Lake, a subsidiary of the Plymouth and Group No. 1 Corporation, a subsidiary of the Texon Oil & Land Co., controlled by the Continental. The oil is purchased by the Reagan County Production Co., controlled by the Continental and Plymouth.

Gas Waste

Mr. Donoghue reported that in the 8,500-foot wells, the deepest in the world, the engineering has been bad and if good would save the university, the operators and proration many barrels of oil and millions of feet of gas. There are six wells at this depth which had an initial production of 3,117 bbls. of oil and 76,500,000 feet of gas daily, but at this time it is 9,784 bbls. of oil and 120,000,000 feet of gas. Much of the gas is being burned in flambeaux and not utilized. Mr. Donoghue recommended that steps be taken to save this gas. He said the present average gas ratio is 11,700 feet to every barrel of oil produced and that back pressure, as demonstrated elsewhere, should be applied to save the wastage. He recommends that the gas-oil ratio be reduced to 5,000 feet or less a barrel and experiments made with the back pressure to make further reduction; decrease the size of chokes and flowing well on one choke only; tube all wells that are permitting excessive amounts of gas to by-pass the oil; have proper facilities for well 1-B; drill no more wells and that the operators agree not to deepen 4-C and not to begin 4-B.

Mr. Donoghue said there were three producing zones at 2,400 feet, 3,000 feet and 8,500 feet. The gas conservation conditions in the first two were pronounced good. There are 12 wells at 2,400 feet producing daily 1,128 bbls. of oil and 1,120 bbls. of water and at 3,000 feet 347 wells producing 11,000 bbls. of oil and 34,000 bbls. of water. He said the Big Lake is considering the matter of storing gas in the 2,400-foot sands and "with co-operation between the two operators in repressuring that there might be real conservation." Urging the conservation of gas in the 8,500-foot level, Mr. Donoghue wrote:

"Gas is the energy, the motive power, that brings oil to the well and to the surface, and its waste today means the loss of many barrels of oil that would otherwise be recovered tomorrow." He added:

"There is evidence of great waste of gas in the eight or nine large flambeaux to which go the 120,000,000 feet of gas now produced daily in the field and which may be increased with the bringing in of each additional deep well.

"Although these wells are the deepest producing oil wells in the world and the operating conditions may be abnormal, the facts do not justify the continued production of oil from that horizon with a gas-oil ratio of 10,000 to 15,000 feet of gas per barrel of oil, when a lower ratio might be obtained without harmful effects to the well."

He said the practice of holding the gas has been used elsewhere without injuring the wells.

Dispute Over Air-Gas Lift

In the Crane-Upton area the Gulf company opposed The Texas Company using air pressure, declaring such practice "made reduction ridiculous." Underwood Nazro, of the Gulf company, said all were trying to bring about reduction and The Texas Company was using machinery artificially to increase it by forcing air into wells to raise the oil.

The Gulf company opposed making exceptions for marginal wells, declaring the pinching down should apply to all alike. It was supported by one or two others, the argument being that all should share in the same ratio in reducing the oil curtailment. The small and old well owners objected, saying wells of 6 bbls. and less daily are entitled to exemption from proration as given by the field committees. The Gulf company said it owned as many small wells as any one and that curtailment would not hurt it.

District Warnings

J. H. Clark, of Amarillo, said the limit was satisfactory to the oil operators in the Panhandle, but there was discord over the measure of individual proration. Mr. Nazro objected, saying the method used was unjust, discriminatory and illegal and not on a conservation basis as it exempted the marginal wells.

In North Central Texas wells of 6 bbls. and less a day were exempt and the Gulf protested, as did others. O. O. Franklin objected for the Waggoner interests, saying Wilbarger County had been grossly discriminated against and Wichita favored. This was denied by M. W. Blair for the field committee, who said the proration was uniform.

Mr. Franklin wanted the proration equal for each county and each well and he protested the exemption of the 6-bbl. wells.

Mr. Penn explained that some of these old and small wells will lose and already are losing, so it was fair to exempt them. He said if the lid was off Pecos County would produce half the maximum production and Van the other half. Mr. Farish objected to the production of more oil than the purchasers would buy and insisted proration be based accordingly.

In regard to the West Central Texas Field, Brown, Callahan, Comanche, Coleman, Eastland, Erath, Jack, Palo Pinto, Shackelford, Stephens, Throckmorton, Young, Haskell and Runnels Counties, Mr. Nazro said proration was not needed there, since only a 2,000-bbl. cut is proposed, but that if proration came he objected to exempting the 6-bbl. wells. He declared their curtailment would not prevent pumping.

From the Laredo district, O. W. Killam said refineries are taking all oil that can be produced in that section. He denied that Mirando crude evaporates or deteriorates while standing in open tanks in the sun. He said drilling has been cut to a minimum and the Escobas district had limited itself to 5,000 bbls. daily. Everything possible, he asserted, had been done to prevent waste and averred there is none there.

EFFECTS OF BOTTLED GAS ON RURAL CONDITIONS

(Continued from Page 137)

in the price of liquid gases indicates that climbing surplus stocks will result in still lower prices and a greater reduction when compared to electricity. For example, pyrofax was introduced at 22 cents per pound and it now is sold and delivered at 12 cents per pound.

From this brief view of the situation, as we attempt to reach more rural customers and to sell all of them more electricity by developing cooking and water heating, we must meet a competitor offering instead, gas with practically equivalent service, lower initial investment and less operating costs.

Meeting the Competition

The gas story will be told through thousands of dealers, and many thousands of salesmen, as well as through extensive advertising campaigns both local and national. To meet this aggressive competition electric companies will need to lay special stress on their sales activities. The numbers of salesmen who circulate among rural customers and prospects should be increased to the point that the advantages of electric cooking and water heating be told to all at least three times each year.

The electric proposition should match and better in all respects that of gas. Initial costs must be brought down through lowering prices of installation and appliances. Terms of payment should be designed to permit purchase and payment of equipment without disruption of the family budget. Rates where too high to be competitive, should be lowered.

There is much to be gained by taking prompt steps to meet this new challenge. Each bottle gas installation sets electricity back in that home from 5 to 10 years. Each represents a potential loss of $100 per year in electric revenues. Unless the electric industry will be content with lighting and supplying small miscellaneous power to its rural customers, this new gas problem merits serious consideration. Bottled gas has or will soon reach the point where it is difficult to laugh off.

Electrification of rural territories should be pushed vigorously. Lines should be extended to cover the highways and by-ways. Homes should be wired and fixtured. Ranges, water heaters and refrigerators should be sold at once and in groups. Prices for these complete electric installations will have to be cut and the terms extended over long periods so that the monthly payments are nominal. The question is less one of immediate cost than that of economics. The potential revenue which is lost in permitting gas installations to be made among rural customers will far exceed any expenses of aggressive sales activities which prevent these losses.

Conclusions

Revenue received by central stations is in direct proportion to the appliances used. The more appliances used, the greater the revenue and profit. A home completely electrified in the beginning is more valuable to the electric company than one in which the electrical use is developed by the piecemeal, or one appliance at a time method.

A maximum sale per customer can be obtained by putting in the home any and every appliance which can possibly be used. Install them at the outset, reduce the prices and extend the payment terms over whatever period of years is necessary. Establish rates which will keep these appliances in the home and in use. The combined appliance payment and the bill for current should be a sum which the average family and the average income can pay regularly and without pressure.

When the electric industry begins to respect the abilities and possibilities of liquid gas, it should make ready to meet it. If gas spurs this industry on to an aggressive prompt development of its rural sales, it will have rendered electricity and the public a good service. To put the idea in other words, procrastination by individual companies and the industry will be expensive. On the other hand, a definite well planned and executed rural sales development program will lead rapidly into an era of electrical expansion and prosperity.

Pennsylvania Grade Prices Advanced as Production Declines

The efforts of Pennsylvania grade oil producers to keep their production down to refinery requirements were rewarded Friday, August 22, when the Seep Purchasing Agency increased the price of Pennsylvania Grade crude in National Transit, Southwest Penn and Eureka pipe lines 25 cents per barrel and the Tide Water Pipe Co. increased the price of Bradford and Allegany crude 35 cents. This makes Pennsylvania Grade crude oil produced in West Virginia $2.15 per barrel; in Pennsylvania south of the Bradford Field $2.20 and $2.25, and Bradford and Allegany, N. Y., crude, $2.35.

Co-operation of producers in the Bradford and Allegany Fields is being reflected in a decisive manner in the production figures from that area. An observer in that district has the following statement to make in regard to the latest developments:

"The daily average production of the Allegany district for week ending Saturday morning, August 16, was 6,591 bbls., and for the Bradford district 20,091 bbls. Since the production in the Allegany Field for July averaged 7,111 bbls. and for Bradford 20,466 bbls., it is apparent that the conservation movement continues to gain in strength. It is believed that in no case will the daily average production for the Bradford and Allegany district for August be in excess of 26,500 bbls. daily.

"The refineries in the Bradford and Allegany areas and those exclusively supplied from the area, including but one plant at Warren, are now running a total of 27,500 bbls. daily to stills and it is believed that these plants will continue at this figure until early October. This indicates that at present the local plants are consuming 1,000 bbls. daily more than the total output of the restricted production in Bradford and Allegany.

"The conservation movement is producing good results in the area south of Bradford as is indicated by the weekly statistics released through the American Petroleum Institute. The results in southeastern Ohio are particularly encouraging, but the figures plainly show that all areas are co-operating very closely in the work.

"The long continued drought has naturally affected the production from many properties and has aided the producers' committees through reduction of production on properties that have not been subscribed to the conservation movement. Those who have made careful study of the entire situation are in no way fearful but that the production can be increased promptly and as rapidly as is desirable in the Bradford and Allegany Fields whenever there is indication that more crude can be run daily to stills. The five-spot method of development has been proven, and it is known that if 5,000 or even 10,000 bbls. more crude could be refined daily that this amount could be produced from the Bradford area alone within one week's notice."

Oil Men You Meet in the West Texas Fields

1—Left to right: W. B. Sevey, C. H. Kreunicke, E. W. Kidwell, B. F. Newton, R. L. Walsh, J. B. Dawson and T. E. Howard, Shell Petroleum Corp., Wink, Tex. 2—R. J. Metcalf, Transcontinental Oil Co., Fort Worth, Tex. 3—Back row, left to right: A. T. Moffett, Simm Walker, L. B. Berry, C. A. Reeves, G. R. Osborne, W. A. Perrin, E. N. Van Duzee and B. P. Walsh. Front row, left to right: Claude Cathey, Ray Walker, E. L. Wright, Jimmy Jones, Bert Gardenhire, Burr Paris, J. P. Ridens and L. M. Boyd. 4—C. J. Shappell, Texas Pacific Coal & Oil Co. refinery, Fort Worth, Tex. 5—William Schroeder, James Shea, Jois Conti, R. E. Acker, E. F. Taylor and William Clark, Vernon pipe yard, General Petroleum Corp. of California. 6—C. B. Swanner, Texas Pacific Coal & Oil Co., Thurber, Tex. 7—Left to right, standing: "Mac" McCarty, Louise Loweth, Tom Partridge, Jessie Ott, Bud Warmington, Howard Elliott, Earl LaForce, Jack Cotton, Larry Bostwick, Gus Larson, Ollie Branyon, John Wetterwulghe. Kneeling: Frank Clark, Lee Busby, Glen Smith, Johnny Francis, Alfred Dent and Les Little, Vernon stores of General Petroleum Corp. of California. 8—S. G. Forney, Gulf Production Co., Odessa, Tex., and Bill Blodgett, J. T. McElroy Ranch, Crane County, Texas. 9—Left to right: C. A. Barrere, J. Von Carlowitz, William A. Cunningham, Texas Pacific Coal & Oil Co., Fort Worth, Tex. 10—Left to right: L. H. Groves, J. D. Gibb and J. E. Kieffer, Vernon garage warehouse, General Petroleum Corp. of California.

EASTERN REFINED OIL MARKET IS UNSETTLED

(Continued from Page 135)

elan market has softened a little in sympathy with the weak market in the United States, and it is reported locally that cargo business can be done at 85 cents per barrel, f.o.b.

The Panuco crude market has likewise eased off, with oil reported available for prompt and nearby shipment at 55 to 60 cents per barrel, or 70 to 75 cents, taxes paid. There is little demand for this oil at present, although European buyers, who contracted for Panuco oil in a large way earlier in the year, are expected back in the market shortly to cover on their requirements for 1931.

Petroleum Exports

Export movement of refined products out of the local port continued along routine lines during the week ended August 16. Inquiry was holding up fairly well, but actual business had not increased to the extent that many operators had anticipated. Buying for refinery shipment on the part of local operators continues small, with buyers in most instances limiting purchases to quantities actually required to cover export sales already made. There is still some uneasiness expressed regarding the stability of prices at the refineries, and operators believed that in most respects it will continue a buyers' market for some time to come.

The following table shows principal exports of refined petroleum products from New York for the past three weeks (all figures in gallons unless otherwise noted):

	Week ended		
	Aug. 16	Aug. 9	Aug. 2
Gasoline	470,000	725,000	115,000
Naphtha	920,000	90,000	.....
Kerosene	400,000	50,000	280,000
Fuel oil	20,000	145,000	110,000
Lubricating oil	2,180,000	1,867,000	2,920,000
Petroleum, refined	575,000	2,693,000	875,000
	Pounds		
Petrolatum	.....	.....	8,000
Paraffin wax	790,000	1,275,000	840,000
Refined	25,000	225,000	.....
Scale	390,000	285,000	1,225,000
Lubricating grease	790,000	965,000	875,000

Reports from London indicate that Rumanian exporters of refined products, who had been cutting prices on gasoline and other products during recent months, have advanced their quotations due to the conservation policy which recently went into effect in that country. The reports add that Royal Dutch-Shell and Standard Oil of New Jersey will in future handle the bulk of the exports of Rumanian refined products, through their subsidiaries operating in that country.

Imports

Imports of crude and refined petroleum at the principal United States ports for the week ended August 16 totaled 1,860,000 bbls., a daily average of 265,714 bbls., compared with 1,565,000 bbls., a daily average of 223,571 bbls. for the previous week and a daily average of 278,607 bbls. for the four weeks ended August 16. Details follow:

(Barrels of 42 Gallons)

At Atlantic Coast Ports—	
Baltimore	81,000
New York	1,006,000
Philadelphia	537,000
Others	182,000
Total	1,806,000
Daily average	258,000
At Gulf Coast Ports—	
New Orleans and Baton Rouge	15,000
Tampa	39,000
Total	54,000
Daily average	7,714
At Atlantic and Gulf Coast Ports—	
Total	1,860,000
Daily average	265,714
Daily average four weeks	278,607

Distribution of total imports is as follows:

Crude	1,509,000
Gasoline	85,000
Fuel oil	266,000

California Oil Receipts

Receipts of California crude and refined petroleum at Atlantic and Gulf Coast ports for the week ended August 16 totaled 399,000 bbls., a daily average of 57,000 bbls., compared with 851,000 bbls., a daily average of 121,571 bbls. for the previous week, and a daily average of 88,536 bbls. for the four weeks ended August 16. Details follow:

(Barrels of 42 Gallons)

At Atlantic Coast Ports—	
New York	211,000
Philadelphia	188,000
Total	399,000
Daily average	57,000
At Gulf Coast Ports—	
All ports	None
At Atlantic and Gulf Coast Ports—	
Total	399,000
Daily average	57,000
Daily average four weeks	88,536

Distribution of total California receipts is as follows:

Gasoline	399,000

Shipments of California refined products for Atlantic and Gulf Coast ports during the week (with identity of owner of tanker moving the oil where such owner of record is an oil company) were as follows:

To New York—82,200 bbls. of gasoline on the Cities Service Oklahoma (Cities Service Co.); 77,000 bbls. of gasoline on the Meton; 79,500 bbls. of gasoline on the Huguenot (Richfield); and 78,700 bbls. of gasoline on the Samuel Q. Brown (Tide Water-Associated Oil Co.).

To Norfolk—71,000 bbls. of gasoline on the New Jersey (The Texas Company).

To Boston—96,800 bbls. of gasoline on the Java Arrow (Standard Transportation Co.-S.O.N.Y.).

To Baltimore—73,700 bbls. of Diesel oil on the Cathwood (Union Oil Co. of California).

REPRESSURING TEST AT SARATOGA DOME

(Continued from Page 39)

so if the horizon is one continuous sand body, the injection of gas into that well should increase the production in Nos. 79-A, 78, 80-A, 86-A and 95-A.

Significant Development

Repressuring of the sand was started June 30 and up to now there has not been sufficient time to obtain definite results. However, within the past 10 days there has been a very significant development in that the pressure necessary for injection has increased from around 44 pounds, at which the system was started, to between 75 and 80 pounds. This indicates the gas has met resistance from some source. If the sand is one continuous body, the gas probably is pushing against the face of the fluid and further injection will push the fluid to the oil producing wells, which should begin to reflect substantial increases in the near future. If the sand is not continuous and the injection well is set in a separate lense from that of the oil and water wells, then the increase in pressure is due only to the filling up of the lense with gas and there will be no effect on wells not in this lense.

With the increase in injection pressure at well No. 83-A there has been a little boost in pressure at No. 82-A, the other dry gas well which is closed in. This establishes proof of the migration of the gas through the lense or sand body, as the case may be, and is further indication that pressure is gradually being built up.

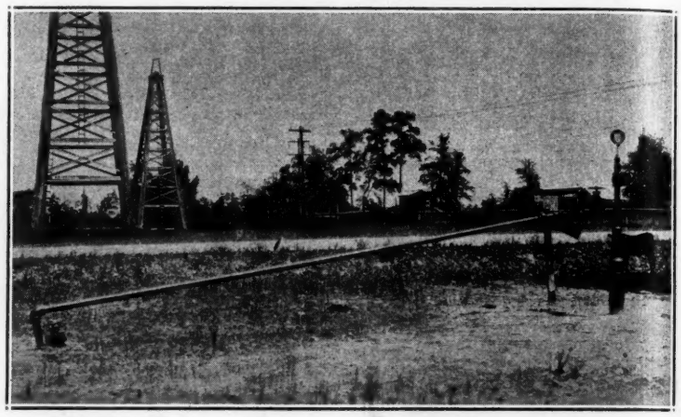
As previously stated, the low cost of repressuring at Saratoga permits the carrying on of experimental work. The development of repressuring in the old salt dome fields in the past has been retarded because costs of operation probably would have been excessively high, more so in such fields than in any other area due to the many peculiarities of Gulf Coast conditions. However, at Saratoga, Rio Bravo Oil Co.'s costs are minimized to a point where an increase of only 2 to 3 bbls. daily would pay for the cost of operation of the project.

Mr. Zaba, in his paper, listed five basic costs of any repressuring project, as follows: First, cost of injected gas; second, cost of labor; third, cost of power to drive compressors; fourth, value of production of key well which is temporarily lost; and, fifth, depreciation of equipment.

Costs Negligible

At Saratoga each of these costs is negligible; some have been eliminated entirely. In the first place there is no cost for gas which there would be in most old coastal fields in which the head of gas pressure has long since been taken off leaving the wells flowing by hydrostatic pressure, or pumping. The gas injected at Saratoga is taken from other wells on the tract, being produced by Rio Bravo Oil Co. in sufficient volume for this purpose. As the gas is returned to the sand there is no loss from this item, and the gas, which otherwise might be blown to the air, is conserved for future needs and to lower present lifting costs.

As for labor cost, the one compressor is being taken care of by the pumper on the lease. The compressor requires very little attention and does not add materially to the duties of the pumper. Thus, labor does not entail any special cost. Electric power is one of the chief items but this has been found not to exceed $1.90 daily.



Hook-up at No. 83-A Cotton, injection well of the 500-foot sand. The well at the left is No. 47 Cotton, injection well of the 1,100-foot sand.

There has been no loss of production, even temporarily, from the use of a well for the injection of gas to the 500-foot sand. The injection well, No. 83-A, in this sand has produced only dry gas. In repressuring the 1,000-foot sand there was a small loss from this item, as the key well, No. 47, had been pumping about 12 bbls. daily before taking gas.

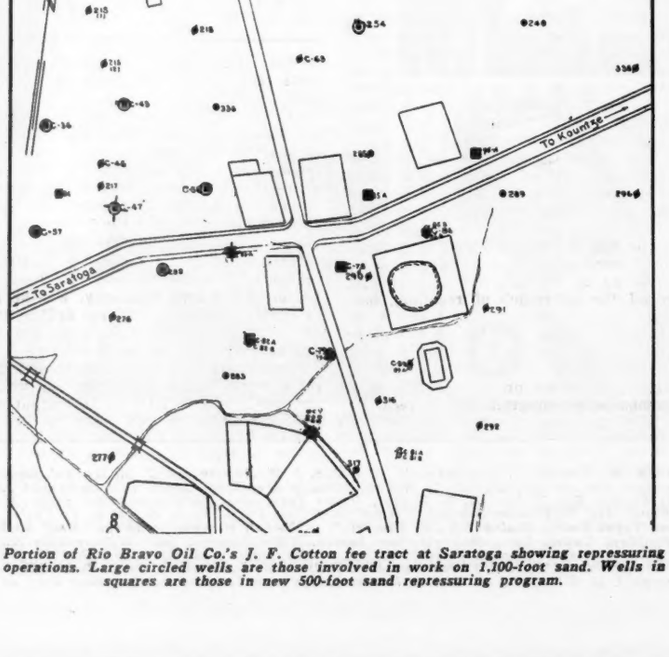
Equipment Used

As there is a minimum amount of equipment, the daily depreciation of this is comparatively slight, being computed around 78 cents daily. In the 500-foot project the depreciation and power cost in reality are the only two items of expense, these totaling $2.68 daily. At this figure, an increase of only 2 to 3 bbls. daily would pay for the operation.

Equipment now being used for the repressuring consists of a 6x2⅞x6 horizontal, double-stage, reservoir cooled ER-2 Ingersoll-Rand air compressor. This was installed new on April 16. Previously in the repressuring of the 1000-foot sand, a 4½x5 vertical, single-acting single-stage, reservoir cooled Imperial type Ingersoll-Rand air compressor was used. This formerly had been in service part time at the Saratoga treating plant and its diversion to repressuring work saved an important initial outlay cost.

The new compressor has enabled an increase in the daily input capacity to approximately 28,000 feet of gas daily and an increase in the operating pressure to 110 pounds during the repressuring of the 1,000-foot sand. The old compressor had a capacity of only 18,000 feet daily, but this proved very satisfactory for the early work.

Gas for the system is collected through a 4-inch field gathering line, to which connections are made from each well making any gas. The gas production per well is not large, but the total from the scores of wells on the lease has proven ample for the experimental work. The gas is taken directly off the head of the well, there not being sufficient volume for individual separators or traps. It might be mentioned in this connection that the gas is what little escapes from the fluid pumped to the surface. There are no flowing wells on the lease. As the gas is slightly wet, drips have been improvised at three different places along the main



Portion of Rio Bravo Oil Co.'s J. F. Cotton fee tract at Saratoga showing repressuring operations. Large circled wells are those involved in work on 1,100-foot sand. Wells in squares are those in new 500-foot sand repressuring program.

line for the trapping of any fluid before it gets to the compressor.

Small Volume of Gas

Because of the comparatively small volume of gas available from the wells, there ordinarily would be the likelihood of the compressor drawing too heavily and creating a vacuum on the system. This would not be desirable because of the danger of the wells sanding up more easily, and has been guarded against by the installation of an automatic back-pressure regulator valve at the intake of the compressor. This valve closes when the pressure on the feed line drops to a certain level, assuring the maintenance of a small back pressure on the system at all times.

In attempting to repressure the 1,000-foot horizon, No. 47, as previously stated, was the injection well, this well being used following an unsuccessful effort on No. 56, a more centrally located well, as shown on the accompanying map. No. 56 was found to have sanded up, which trouble had been experienced in that well before.

Both of these wells had been set with two strainers, these being in No. 47 at

Small compressor used in repressuring operations at Saratoga.

861-903 feet and 1,009-26 feet. As it was desired to repressure only the lower horizon it was necessary to set a wall packer with tubing between the two sands to permit the gas to be injected through the tubing into the lower sand. This key well started taking gas after a pressure of 180 pounds had been built up, but this pressure requirement dropped off to around 71 pounds after the well had been taking gas for some time.

With the exception of a short shut-down due to a freeze-up on the discharge line of the compressor, from 12,000 to 13,000 feet of gas daily was injected continuously into the sand for a period of approximately seven months, and, as stated, the only noticeable result was a general increase in the volume of gas production. Due to the fact there was no pronounced increase from any one well, the gain probably was from dissolved gas and entrapped gas liberated by an encroaching input gas rather than from the by-passing of input gas on any particular wells.

Of Great Benefit

This lack of success, however, has not condemned the field for repressuring, nor has it discouraged engineers of the Rio Bravo Oil Co. The latter company has been a pioneer in the experimentation and adoption of new production methods and the information gained from the Saratoga project probably will prove of great benefit in the work which the company may undertake in other coastal fields in which it operates. James Hutcheson, general manager of the company, has been largely instrumental for the program which is being carried out, and with him S. T. Childress, division superintendent; M. E. Schwarz, chief engineer; J. Zaba, engineer, and R. V. Plyler, field superintendent at Saratoga, have worked very closely.

Saratoga is one of the oldest of the coastal salt dome fields and the development of the sands on top the dome has dated back to as early as 1904. Although other companies have been interested in the field, Rio Bravo Oil Co. always has been the chief operator there. The only new drilling which is being done at Saratoga is by the Rio Bravo Oil Co. in the 900-foot horizon which has just been opened for production this year. The development of this sand is of particular interest in that the sand has been known to exist ever since the field was opened, but it was not until this year that it really was given its first thorough test on the Rio Bravo lease. The sand previously had been passed up as unimportant in efforts of operators to reach the deeper zones. Drilling of the 500-foot sand, however, has resulted in some of the best production which has been obtained from any of the shallow sands and has been paying off in consistent pumpers of high grade Grade A crude.

SPANISH LOAN DENIED

NEW YORK, Aug. 25.—Recent reports linking Standard Oil Co. of New Jersey and Royal Dutch-Shell in a proposal to extend the Spanish Government a large cash loan, without interest, in exchange for the Spanish Petroleum Monopoly business, received denials here in cables carrying statements made by the Spanish Government and Walter C. Teagle, president of Standard Oil Co. of New Jersey, now in Europe.

The statement issued by the Spanish Government said: "The Spanish Ministry of Finance is able to give the assurance that it has received no offer from the Standard Oil Co. to place one billion pesetas at the Government's disposition if it dissolves the oil monopoly."

Mr. Teagle's statement, made in London, denounced the entire story as "made from whole cloth," substantiating denials previously made by other officials of the New Jersey company.

NEW JERSEY COMPANY CURTAILING IMPORTS

(Continued from Page 40)

the first six months of 1930 the industry's curtailment program has extended to imports and domestic production alike, the former having dropped off 4 per cent from the same period last year, and crude output of American fields showing a reduction of 2.95 per cent.

Exports Follow Trend

"While imports for the last 10 years have averaged a constant figure, exports have followed the trend of domestic production and have shown an increase of over 100 per cent. But consumption at home has not kept pace with the tremendous growth of the supply and the exports have not been enough to carry off the overflow. The result has been a 10-year increase in stocks of 486,000,000 bbls.

"Even though he has only himself to blame for it, the fact remains that the oil man has too much supply on his hands. What is he going to do about it?

"He can do one of three things. He can shut off the spigot of foreign supply. He can turn down the flow from his own wells enough to balance supply and demand, or he can reduce both in proportion.

"Let's see how the thing would work out.

"For the United States to attempt to rely solely upon its own oil could only result in diverting present imports of crude and products into foreign channels. This backing up of material on the rest of the world, by the simple law of supply and demand, would tend to force down the price. The net result would be the stimulation of foreign refinery construction, the output of which would crowd out present American export and take away from the industry in the United States just that much business. In the end the oil level in this country would remain practically unchanged.

"To go to the opposite extreme and unload the entire job of regaining balanced operations upon the industry in the United States—even though the blame for the present oversupply is on its own shoulders—would undeniably work a hardship on some producers. The only common sense program would seem to include a proportionate reduction of both imports and domestic production.

Curtailment All Along Line

"In view of the whole situation, although its own operations were then in balance, the Standard Oil Co. (New Jersey) announced last March that it would follow the suggestion of the Federal Oil Conservation Board in undertaking a curtailment all along the line. This, of course, involved a reduction in its receipts of crude.

"Believing it manifestly unfair to discriminate between domestic and foreign producers, the company extended this reduction to cover domestic crude and imports of crude and products alike. Figures for the first six months of the current year show the effect of this action.

"In that period domestic subsidiaries of the Standard Oil Co. (New Jersey) received 10,235,277 bbls. in imports of crude and products, as compared with 12,371,902 bbls. for the first half of 1929—a reduction of 2,136,625 bbls., or 17.27 per cent."

A comparison of imports and exports of crude petroleum during the past 10 years follows:

Year	U. S. crude production (bbls.)	U. S. imports crude and products (bbls.)	U. S. exports crude and products (bbls.)
1920	449,151,000	108,794,000	77,993,000
1921	472,879,000	128,783,000	70,723,000
1922	556,512,000	135,947,000	72,873,000
1923	746,516,000	99,657,000	100,436,000
1924	719,346,000	95,325,000	115,869,000
1925	760,059,000	78,851,000	113,400,000
1926	766,668,000	81,293,000	131,826,000
1927	906,416,000	71,852,000	141,276,000
1928	888,676,000	91,556,000	154,647,000
1929	1,001,702,000	108,698,000	162,434,000
Total	7,267,943,000	1,000,756,000	1,141,477,000

RED WARNING MARKS THE TURNING POINT

(Continued from Page 42)

wildcatting it was estimated that not more than an average of 1 out of 100 chance drilling enterprises proved successful. Now trained geologists indicate to lease onwers the most likely places to drill, and science has made the use of geophysical instruments practicable in certain important structures. The chances of failure have thus been reduced from 100 to 1 perhaps 20 to 1. This means that the country's supply of new production is no longer dependent on wholesale prospecting on the scale followed in the earlier days of the industry. All of the major companies as well as many of those less well known now have in reserve blocks of acreage which there is good reason to believe will prove productive when need for more oil arises.

"Recent years have seen the growth of wider understanding among producers of the waste inherent in haphazard drilling and it is becoming easier to effect sane co-operation among producers in new large fields. The time may arrive when operators will hesitate to venture their capital sinking wells costing from $50,000 to $200,000 to produce oil that is not needed and will delay drilling until they have a profitable market in view.

"In the last analysis, however, despite the honest attempt which all branches of the industry have made to meet the problem of overproduction, the fact remains that the country has still too much oil on its hands. There are still too many wells going into the ground.

One Cause of Trouble

"One cause of the trouble is that the producer, like the refiner, has been a victim of his own efficiency. For he is in reality doing only half the drilling today that he did 10 years ago—and is getting over twice as much oil.

"During the first seven months of 1920 there were 13,386 producing oil wells completed, with a total initial output of 2,228,218 bbls., or 166 bbls. per well. For the same period in 1930 the number of oil producers completed amounted to only 7,627. But the initial production was 5,003,196 bbls., or 656 bbls. per well.

"In other words, with improved methods of production for every oil well completed, the producer today is getting an average of nearly 4 bbls. initial production for every barrel he obtained in 1920.

"The point is that it is not a question merely of balancing crude supply with market demand. The industry has a huge surplus to consider—both above and below ground, and with it the problem of how to move some of it off its shelves. On June 30 there were over 425,000,000 bbls. of crude in storage, not to mention shut-in production in the three principal oil-producing states running into hundreds of thousands of barrels daily. If every drill in the country were to stop its mad race for more crude, the situation would soon right itself.

"Unfortunately, a complete moratorium in field activity is clearly impossible. But it would seem that drilling not compulsory for the protection of land and lease owners might be stopped until stocks are reduced and shut-in production released.

New Jersey's Curtailment

"In view of repeated discussions in The Lamp on the whole question of curtailment and announcements by the company that its own operations were being materially reduced, a record of stocks of domestic subsidiaries of the Standard Oil Co. (New Jersey) over the past five years may be of interest.

"During a period when the industry as a whole was increasing its storage of crude and products nearly 25 per cent, the company's operating units in the United States effected a substantial reduction in stocks all along the line. Supplies of crude, naphtha and total stocks of crude and products showed cuts ranging from 19.6 to 45.1 per cent during the period in question. Moreover, crude runs for the first seven months of 1930 were 5½ per cent below those of the corresponding months last year. Imports, too, have been cut.

"The industry is paying the penalty today for its producing orgy of the past. All branches of the business have been affected, and the dose has not been a pleasant one. Nor is there any let-up in sight.

"Obviously, so long as present conditions of crude supply, storage and refining capacity continue, any return to the old 'blind man's bluff' method of doing business means certain disaster. On the other hand, if the industry can hold its output below the market demand for all products for an extended period, stocks will in time be reduced to a reasonable working basis.

"What is rapidly looming as the oil man's most perplexing problem is the ultimate necessity of gradually replacing his present emergency measures of forced curtailment with a permanent, rationalized program of balanced operations."

REFINERY STOCKS OF STANDARD OIL CO. (NEW JERSEY) SUBSIDIARIES

Date—	Total crude (bbls.)	Per cent reduction	Total naphtha (finished and unfinished) (bbls.)	Per cent reduction	Total crude and products (bbls.)	Per cent reduction
Jan. 1, 1926	62,116,663	....	12,244,303	....	88,201,215	....
Jan. 1, 1930	45,326,460	27.3	6,766,632	35.1	70,913,437	19.6

DEATH OF H. A. BRANT

H. A. Brant, former Tulsa drilling contractor, who had been operating in Michigan for two years, died in Bellview, Mich., Friday, August 22. Mrs. Brant and daughter, Julia, were on their way to Tulsa after visiting Mr. Brant, when they were notified at Indianapolis of his death. They accompanied the body to Tulsa where the funeral was held.

DONATES BROADCAST FEES

Sir John Cadman, G.C.M.G., the chairman of the Anglo-Persian Oil Co., Ltd., has presented 60 guineas ($300) to the Benevolent Fund of the Institution of Petroleum Technologists, this being the fee he received in connection with his series of six broadcast lectures from the B.B.C. on oil.

NEW WELL IN JAVA

The Bataafsche Petroleum Maatschappij has struck a new oil well at Perlak with a production capacity of 200 tons a day.

CALIFORNIA OUTPUT MAY SHOW INCREASE

(Continued from Page 37)

tion of the field. This tends to indicate that the top of the Playa Del Rey structure is located adjacent to the Union Oil Co.'s No. 1 Del Rey but this will not be definitely decided until more wells are drilled in this section of the field. Up to the present time most of the drilling undertaken has been located in the northern part of the field adjacent to the Ohio Oil Co.'s discovery well.

Kettleman Hills Completion

The Associated Oil Co. focused the attention of operators on the Kettleman Hills Field of Kings County during the early part of the past week by completing No. 1 Whepley flowing 3,225 bbls. of clean 50.5 gravity oil and 80,000,000 feet of natural gas per day. This new well, which is one of the most important completions to be listed at Kettleman Hills since the Petroleum Securities brought in No. 1 Felix flowing 3,000 bbls. per day from 7,276 feet in January, 1930, was bottomed at 7,904 feet and finished with a 4¾-inch liner, 1,077 feet of which was perforated. The importance which attaches to the completion of this new well, located in Section 35-21-17, lies in the fact that it extends the proven limits of the north dome and substantially increases the amount of proven acreage.

One of the most interesting features in connection with No. 1 Whepley is the fact that this new well is producing a black oil averaging 50.5° A.P.I., in contrast with the light 60.5 gravity oil yielded by other wells producing in this field at the present time. This is especially significant because it indicates the probability that there is a substantial accumulation of a normal crude oil below the present high pressure gas zone which is producing all of the light oil being brought to the surface at Kettleman Hills. The probable existence of a normal black California crude oil was evidenced by the completion several months ago of the General Petroleum's No. 2 Ochsner in Section 20-22-18. This well, it will be recalled, yielded a 50.5 gravity crude oil which appears comparable with that now being produced by the Associated's No. 1 Whepley.

North Dome Interesting

The normal crude oil found in these two wells revives the question as to whether the north dome of Kettleman Hills is a gas field or a normal high pressure oil field. There is a division of opinion among geologists and petroleum engineers as to the status of this field with respect to this classification. Recent developments indicate the probability that it is both an oil field and a gas field, so that both theories may ultimately be proven correct. Previous to the discovery of black oil by the Associated and General Petroleum, the weight of evidence indicated the presence of a high pressure gas field. This theory is supported on the contention that the 60 gravity crude oil produced at Kettleman Hills from the Elliott zone is a condensate and not a normal crude oil. Those who have been contending that Kettleman Hills is a normal high pressure oil field and not a gas field will probably be able at a later date to justify their assumption, but even if this opinion is confirmed it does not remove the technical classification of Kettleman Hills as a gas field previous to the discovery of black oil as the 60 gravity crude contains approximately 85 per cent gasoline.

The divergence of opinion regarding the technical classification of Kettleman Hills is of special interest because it presents a problem which may prove of considerable importance from an economic standpoint if it is found feasible to case off the present gas zone and produce from the oil zone. The importance of this, however, can only be determined by subsequent drilling as development work up to the present time is not sufficiently complete to indicate a definite break between the high pressure gas zone and the possible underlying oil zone. From a physical standpoint it is not logical to assume that the 60 gravity light oil and the 50 gravity black oil is contained in the same reservoir because of the great disparity in the characteristics of each oil. Those who are familiar with subsurface conditions at Kettleman Hills readily admit that any of the numerous hard sands encountered below the top of the Temblor would prove an ample seal between the present high pressure gas zone and a probable underlying oil zone. This is important because if such a condition exists it will be possible for operators to case off the gas zone and produce the underlying oil horizon. This procedure would prove especially important from an economic standpoint as the conserved natural gas in the possible overlying gas zone could be used to advantage at a later date for repressuring the oil zone.

Located on Fee Acreage

No. 1 Whepley of the Associated Oil Co. is located on fee acreage situated outside the area covered by the existing Kettleman agreement which contemplates a cessation of drilling and production activities as far as possible until July 31, 1931. For this reason it can be produced without restraint. No. 1 Felix of the Petroleum Securities was the first well to be finished on acreage located outside of the area covered by the Kettleman Hills agreement and additional wells are scheduled to be finished just over the line in the near future by the Petroleum Securities and Standard. The Felix property, consisting of 160 acres in Section 35-21-17, adjoins a 480-acre permit in Section 2-21-17 held by the Continental on which the Secretary of Interior has recently granted permission to drill three offsets without the privilege of producing the wells upon completion. The Whepley property also adjoins this lease of the Continental with the result that the Continental Oil Co.'s lease is being drained by both the Petroleum Securities and Associated because of the refusal of the Department of Interior to sanction offset drilling several months ago. The Standard will also be in a position to drain this lease of the Continental unless the Department of Interior subsequently permits the latter to put these offset wells on production. On the Dixon property in Section 36-21-17, the Shell is rotating ahead in its initial test at 4,675 feet while the Pacific Western Oil Co. is putting the finishing touches on a new rig in Section 1-22-17, which will offset this project, No. 1 Dixon. Both of these wells, No. 1 Dixon of the Shell and the Pacific Western's test in Section 1-22-17, adjoins the northeast corner of the Continental's lease in Section 2-22-17 and will consequently drain this property unless it is offset.

Crude oil production in California totaled 18,802,024 bbls. during July, an average of 606,517 bbls. per day, as compared with 600,693 bbls. daily in June. Long Beach and Playa Del Rey were directly responsible for this increase, the former increasing from 93,069 bbls. per day in June to 100,137 bbls. daily in July, and the latter from 4,263 bbls. daily in June to 8,177 bbls. per day during July. Both fields have registered further increases during the current month, August, to date. Other fields throughout the State were relatively stable during July, some declining and others increasing. Santa Fe Springs, Mount Poso and Elk Hills registered smaller production in July, while Elwood, Ventura Avenue and Midway-Sunset produced a little more in July than during the preceding month, June.

Stocks of crude and refined oils were reduced 2,086,307 bbls. during July, the largest decline taking place in heavy crude and gasoline. The former segregation, which comprises heavy unrefinable crude and refinery residuum, was reduced 786,422 bbls., while gasoline, including engine distillate and casinghead, was cut 665,346 bbls. Light refining crude was reduced 32,413 bbls. during the month of July, while naphtha distillates, tops, declined 121,939 bbls. in the same period. Other finished and unfinished oils were 480,187 bbls. lower at the close of July. There were 112,250,064 bbls. of heavy crude oil and fuel oil, 41,831,069 bbls. of light refinable crude, 16,443,513 bbls. of gasoline, 3,518,175 bbls. of naphtha distillates and 8,213,124 bbls. of other refined oils on hand in the Pacific Coast territory on July 31, bringing the total fluid stocks in storage to 182,255,945 bbls., as compared with 184,397,091 bbls. at the beginning of the year.

NEW GAS WELLS IN WILDCAT AREAS FEATURE MICHIGAN DEVELOPMENTS

MUSKEGON, Mich., Aug. 25.—Four gas wells in three wildcat areas were the most interesting developments in Michigan. Three were in the Marshall formation near the Mount Pleasant Field, but the fourth was on Hanson's Island, about 30 miles south Port Huron and in the St. Clair River. Gas was struck in this well at about 113 feet with an estimated flow of 500,000 feet a day. The island is about 35 miles west of Oil Springs, Ontario.

The Mellon-Pollock Oil Co.'s No. 1 A. W. Lynch, SW SW Section 26-16n-4w, Vernon Township, Isabella Township, has been completed as a 1,000,000-foot gasser in the Marshall at 1,323-25 feet.

The General Petroleum Corp.'s No. 1 Pat Regan, SE NW NW Section 36-16n-4w, Vernon Township, struck gas in the Marshall at about 1,300 feet. It is estimated from 2,000,000 to 3,000,000 feet.

The Mason Drilling Co.'s No. 1 F. Harrison, NE SE Section 24-15n-4w, Isabella Township, Isabella County, one township south of the Vernon wells, had an estimated flow of 2,000,000 feet at 1,251-53 feet.

Two small oil wells were completed, one in the Leaton Pool and the other in the old field in Chippewa Township. Isabella County. The Leaton well is the Wittmer Oil & Gas Properties' No. 1 Smith, S half NW Section 30-15n-3w, Denver Township, Isabella County, which at 3,646-61 feet made about 20 bbls. The Stork Oil Co.'s No. 8 Stilgenbauer and Russell well, NE NE Section 12-14n-3w, Chippewa Township, made 50 bbls. initial in the Dundee limestone, completed at 3,573 feet.

The Dixie Oil Co.'s No. 6 N. Davis, SE NE SW Section 2-14n-3w, Chippewa Township, brought in last week, proved good for 340 bbls. at 3,585 feet.

The total number of producers in the Mount Pleasant area is now 160 oil and gas wells.

Another dry hole was completed in Clare County in the Peninsular Oil Co.'s No. 1 William Bowler, SW NW, Section 15-17n-4w, Grant Township, abandoned at 3,978 feet.

There were no completions in the Muskegon Field although two will be completed this week.

The Jersey Oil Co.'s No. 1 Muskegon Brewing Co. well, located NE SE NE, Section 17-10n-17w, Laketon Township, topped the Traverse at 1,680 feet and is reported to have had a rainbow show. Formations are rising and it will be drilled to the Dundee in hopes of opening a new pool west of the Muskegon Field.

One dry hole was completed in western Michigan, Gibson, Johnson & Borden, Inc.'s No. 1 Teller and others, NE NE, Section 11-8s-8w, Noble Township, Branch County.

Permits were issued for five new wells: Gunnerd Anderson's No. 1 Herman Heinz, SE SE NE, Section 8-10n-16w, Muskegon Township, Muskegon County; Rockford Oil & Gas Co.'s No. 1 G. S. Weidman estate, E half SW, Section 9-14n-6w, Bloomfield Township, Isabella County; Gibson, Johnson & Borden, Inc.'s No. 1 W. W. Brophy, SW NW, Section 19-15n-3w, Denver Township, Isabella County; Muskegon Development Co.'s No. 1 Hughes, W half SW, Section 34-1n-9w, Barry Township, Barry County, a rank wildcat, and Alfred C. Waters, trustee's No. 1 Johnson, Private Claim No. 5, Township 2n, Range 16e, Clay Township, St. Clair County.

C. J. Sipple, Kentucky contractor, will start a fourth well near Rockdale Inn, Fruitvale, this week, located in SW SW, Section 23, Otto Township, Oceana County.

550,000 BARRELS PER DAY FROM OKLAHOMA IN SEPT.

(Continued from Page 48)

violators, Mr. Smith said. First, the State Corporation Commission may punish for contempt of its orders and assess a maximum fine of $500 per day for as many days as the violation has continued. Second, the county attorney in the county in which the Corporation Committee's order is violated can prosecute the offender in the courts as for a misdemeanor, and in case of a conviction the punishment is a fine not to exceed $5,000, or imprisonment in the county jail for a period not exceeding 30 days, or both. Third, the State, through the attorney general may apply for and have appointed a receiver for the offending company or individual who will be instructed to obey the commission's orders. The fourth alternative is that the State itself, through the attorney general, can apply for an injunction restraining the offender from disobeying the commission's orders.

The representative of the Turman Oil Co. protested against certain operators who had, he said, largely exceeded their allotted production. He cited the case of W. B. Pine, the Superior Oil Co. and Burke-Greis Oil Co., all of whom, he said, had overproduced largely in the Greater Seminole area. Other operators present said the pipe lines taking the oil were somewhat to blame for this, and Umpire Collins stated that the operators named were now being kept down to their allotment and some of them under it. The three operators named were among the 61 companies which had been cited by the Oklahoma Corporation Commission for alleged violation of its orders. The 61 companies have been ordered to appear before the commission on September 8 to answer to the charge that they have produced more than their allotment. Many of these alleged violations of the commission's orders are regarded as technical rather than willful, and while the charges are made in all seriousness, it is expected that the hearing will determine maximum production of all wells of all companies and that a limit will be set on what they may produce. The pipe line companies that have been taking the oil from the alleged offenders' wells, it is expected, will also be given very definite instructions as to their future action.

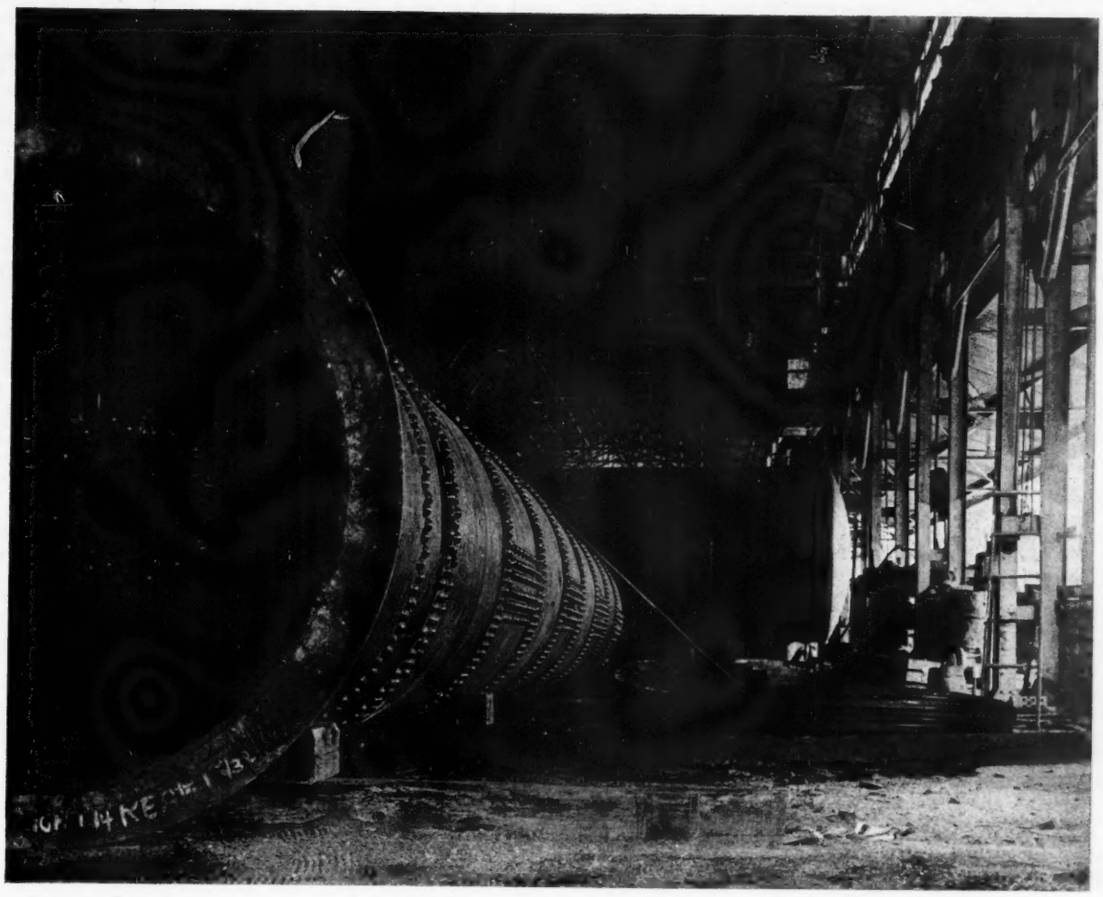
Oklahoma City Operators Agree

Oklahoma City producers met on August 21 and decided to adopt the recommendations of the state proration committee. There had been some objections to the volume of oil the Oklahoma City Field was allotted, but the fear of a deep cut in the price of oil, with little relief promised by the pipe lines, all of which have made it plain that they will not take more oil than they can find a market for, and that their combined crude requirements will not exceed 550,000 bbls. per day regardless of the price of crude, influenced the objectors to join in a continuance of the curtailment movement without further objection. The meeting in Oklahoma City cleared up a critical situation and made the general proration meeting of Friday merely a routine session with all in agreement.

The case of C. C. Julian of Oklahoma City appears to have been straightened out and preparations being made to bring action against his company if it opened one or both of its wells were discontinued.

The whole production and price situation so far as Oklahoma is concerned had a much improved appearance at the close of the past week.

It is believed that curtailment of production to requirements of the pipe line companies will be continued throughout the year. The proration committee is expected to meet again about September 15 to review the situation and make preparations for the fourth quarter.



On heavy plate work for refineries, natural gasoline plants or other uses in the oil industry, the two big plants of Wyatt at Dallas and Houston can serve you adequately. The Wyatt plants have the equipment, the manpower and the experience to translate your specifications into a completed job that meets all requirements. Lower Freight Rates . . . . Quicker Service ◆ WYATT METAL & BOILER WORKS

Capital $1,000,000

WYATT METAL & BOILER WORKS

PLANTS AT DALLAS AND HOUSTON

A.I.M.E. Program Features Unit Plan For Fall Meeting

The petroleum division of the American Institute of Mining and Metallurgical Engineers will hold its fall meeting in Tulsa, Thursday and Friday, October 2 and 3, in the Mayo Hotel. These meetings will immediately precede the opening of the Petroleum Exposition scheduled for October 4-11. Because of the congested conditions of the hotels in Tulsa during the exposition it is suggested that engineers attending the A.I.M.E. meeting make their reservations as early as possible.

The program for October 2 will feature production engineering problems and that for October 3 will deal with unit operation of oil pools. The principal papers planned for the various sessions are as follows:

Some Principles Governing the Choice of Length and Diameter of Tubing in Oil Wells, by J. Versluys.

Increasing the Ultimate Recovery of Oil, by S. F. Shaw.

Bottom Hole Pressures and Pressure Gradients in Flowing Wells, by C. V. Sidwell.

Control of Edge Water by Repressuring, by W. W. Scott.

Effect of Edge Water Upon the Recovery of Oil, by H. H. Wright.

Effect of Proration on Decline of Potential Production and on Ultimate Recovery, by H. H. Power.

Characteristics of Mud-laden Fluids, by C. P. Parsons.

Densities of Oil-Gas Columns From Well Data, by W. V. Vietti.

Development of Casing for Deep Wells, by F. W. Bremmer.

Unit Operation of Oil Pools

An Economic Comparison of Developments in the South Field Oil-Producing Region of Mexico, by Oliver B. Knight.

Progress Report on Foreign Unitization, by E. L. Estabrook.

Place of Unit Operation in Adjusting United States Petroleum to World Markets, by Joseph E. Pogue.

Necessity of Unit Operation or Cooperation at Kettleman Hills, by Robert C. Patterson.

Repressuring and Initial Pressuring, by H. C. George.

Reviews of unit operations in Texas and New Mexico for the following fields: (a) Yates Field; (b) Hobbs Field, Lea County, New Mexico; (c) Van Field, Van Zandt County, Texas; (d) Cook Pool; (e) General Review of Proration in Texas, by David Donoghue.

Charles V. Millikan, chairman of the Petroleum Division, is actively engaged in directing the assembly of the papers for the production engineering session, while Earl Oliver is in charge of the program for the unit operation meeting. The programs promise much of interest to the engineer and technologist and as these meetings immediately precede the International Petroleum Exposition opportunity will be afforded to attend the Oil Show also.

BUYS VAPOR PHASE PROCESS

NEW YORK, Aug. 23.—The Devine Manufacturing Co. has purchased all of the manufacturing and sales rights of the Pratt vapor phase process, according to announcement by Charles P. Devine, president of the company bearing his name.

Two large units are now being installed at the Lubrite Refining Co. plant at East St. Louis for the production of antiknock distillate under the Pratt process.

C. J. Pratt, originator of the process, will continue as president of the Automotive Distillate Corp.

OIL DUTY REFUSED

CHATHAM, Ontario, Aug. 23.—A conference of representatives of British Columbia coal interests, held recently at Victoria, British Columbia, with a view to encouraging the Pacific Coast coal industry, rejected a proposal to petition the Federal government for a tariff of 2 cents per gallon on fuel oil.

HUMBLE COMPLETION IN VAN ZANDT ONE OF THE BEST WELLS IN FIELD

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Aug. 25.—Humble Oil & Refining Co.'s No. 1 Ruth Star Blake, located 640 feet from south line of most southerly southeast corner, and 250 feet from most westerly east line of the 201.4-acre tract in the John Walling Survey, midway between production in the Van Pool proper, and the Carroll district to the northeast, has been completed for one of the best wells of the field, coming in for 30 bbls. in 30 minutes on thirty-four-sixty-fourths-inch choke at a total depth of 2,947 feet. Top of the sand was logged at 2,885 feet. There was 567 feet of screen and 67 feet of liner set on bottom, and 2½-inch tubing was run to 2,920 feet. The well is now pinched to 5 bbls. an hour. Forty thousand feet of gas was gauged with the oil.

The same company will probably complete its No. 2 Blake on this farm during the week as it is now setting casing. Top of the sand was recorded at 2,745 feet. The well is in the northeast corner of the farm, a south offset to the company's No. 1 Carroll in the southeast corner of the Carroll 95-acre tract, which extended production 1¼ miles to the northeast of the Van Pool.

An east offset of the Humble's No. 2 Blake, Pure Oil Co.'s No. 1 M. L. McMahon in the northwest corner of a 48-acre farm is now coring at 2,800 feet, and is also due for completion within the week.

Important Test

Anderson's No. 1 Sanger, in the northwest corner of the Sanger Brothers 200-acre farm, on the east side of the field, will be closely watched this week as it is now reaming at 2,562 feet, and should pick up the Woodbine within a short time unless the test is dry as was the Humble Oil & Refining Co.'s No. 1 Freeman about 4,300 feet south of the northwest corner of the J. A. Freeman 20-acre tract. That test was abandoned at 3,505 feet a few weeks ago, marking the eastern limits of the field.

Kolp and others' No. 1 Matthews in the Willis H. Bruce Survey, 2 miles west of production in the Van Pool, is another interesting test on the border of the pool. It is drilling at 2,555 feet after topping the Pecan Gap from 2,085-2,190 feet. A few days' time should give some definite information as to the possibilities of this test.

A deep seated salt dome is believed to exist in an area northeast of Edom in Van Zandt County, and D. H. Byrd of Dallas is moving in material for a Woodbine sand or 5,000-foot test in block in which the Gulf Production Co. has 5,000 acres, and in which The Texas Company and Cash Dollar Co. have checkerboard acreage, and surrounding acreage. This is the "Chandler" block, northeast of Edom, and the location is in the southwest corner of the C. H. Morris 197-acre farm out of the southwest corner of the J. Piles Survey. The surface geology has been worked, and seismograph exploration has also been used on the block.

Southwest of the Van Pool, in Van Zandt County, T. W. Moore and others are to spud in on a 4,500-foot test by August 30, on the W. A. Kellam farm, in the Jesse Russell Survey. This is in an area which has already received several tests, all of which were dry.

Proration Order

An order has been issued by the Railroad Commission of Texas pertaining to the Van Pool which will be restricted to 27,500 bbls. per day, 25,000 bbls. of which is to come from the Van Pool proper, and the other 2,500 bbls. from the Carroll district to the northeast, which lies out of the unit plan. The wells are to be tested on eleven-sixteenths-inch choke and through 2½-inch tubing which is used throughout the field. Three hour tests are to be made when gauging, the last two hours' gauge used in calculating the 24-hour potential gauge.

Should any well fail to flow through tubing, and there are a few in the field which will so fail, a method of determining the potential is to be made by the umpire upon recommendation of the advisory committee. Operators may pump the well to establish its potential production. This is optional. Twenty-two 76-inch stroke per minute are to be used, with 2½-inch tubing as in the flowing wells, and working barrel standard for such tubing.

Fifteen-day periods will constitute the proration periods, as used in most fields in Texas, and proration is to run for the next six months. After that time it may be continued as for the present, changed to accommodate the field, or discontinued.

East Central Texas Production

Daily average production during the past week follows:

EAST CENTRAL TEXAS	
Boggy Creek	3,660
Cedar Creek	43
Currie	305
Hill County	35
Mexia	4,199
Minerva	550
Nigger Creek	165
Powell	4,918
Richland	150
Thrall	40
Van	25,445
Wortham	705
Total East Central Texas	40,215
Week ending August 16	40,805
Decrease	590

COMPLETIONS IN EAST CENTRAL TEXAS

Anderson County

Humble Oil & Refining Co.'s No. 3 J. C. Beard, top Pecan Gap 2,440 feet, gas sand 3,570-3,624 feet, oil sand 3,-624-36 feet, initial production 3,000,000 feet of gas, total depth 3,636 feet.

Camp County

J. C. Roger's No. 1 Emfeldt, dry and abandoned, total depth 3,045 feet.

Rains County

D. H. Byrd's No. 1 J. D. Hill, top Pecan Gap 2,348 feet, base of Pecan Gap 2,546 feet, dry and abandoned, total depth 4,562 feet.

Van Zandt County

Pure Oil Co.'s No. 1 W. F. Swain, initial production 18 bbls., total depth 2,930 feet. Same company's No. 1 J. R. Shivers, initial production 95 bbls., total depth 2,870 feet. Same company's No. 8 J. T. Thompson, initial production 293 bbls., total depth 2,927 feet. Same company's No. 3 J. J. Murphree, initial production 158 bbls., total depth 2,936 feet. Humble Oil & Refining Co.'s No. 1 Ruth Star Blake, oil sand 2,885-2,947 feet, gauged 30 bbls. in 30 minutes, pinched in to 5 bbls. per hour, total depth 2,947 feet.

LINE PIPE PRODUCTION RUNNING AT CAPACITY

By E. V. Luty

PITTSBURGH, Pa., Aug. 25.—Line pipe production is at capacity with producers well sold for some time to come. There is nothing definite as to how near maturity the various natural gas line projects are, and as in the past orders may be placed suddenly. Line pipe production may be estimated as absorbing about 10 per cent of the present steel production, or engaging about 5 per cent of total capacity.

Standard or merchant pipe is very dull, more so than in the spring. Boiler tubes are decidedly sluggish, as is mechanical tubing.

Demand for oil country goods includes some business in casing and rotary drill pipe.

Steel ingot production in July as officially reported was at 56.35 per cent of capacity, and there appeared to be a practically uniform rate throughout the month. A fair estimate now seems to be about 52 per cent, which would mean nearly 10 per cent decrease from the July tonnage.

Except by a general improvement in business there is no direction in which the steel industry can look for much increase in tonnage during the remainder of the year. Regularly the automobile industry has done better in July and August than in the remaining months of the year. Fabricated structural steel work has been heavy and no more can be expected than a continuance. Freight car orders are almost completed and there is no disposition on the part of the railroads to make further purchases.

Prices are weak on everything except standard rails and pipe, and with some little irregularities on pipe in some sections. Prices have not declined particularly in the past week but almost all along the line they show weakness, there being no well defined prices to represent the market, only certain figures which are regarded as nominally the market but apply to nothing more than small orders. Thus bars, shapes and plates are called 1.65 cents, but no one pretends to deny that the price would not be shaded on a really desirable order, and in the case of plates and shapes some of the shading has been decidedly deep. Galvanized sheets are now openly quoted at 3 to 3.10 cents, representing $2 a ton decline in three weeks. Fresh concessions are reported in nails, while in strips prices formerly holding on a large part of the business are now being shaded rather frequently. With a light operation, increasing costs, some products are being sold at a loss.

PETROLEUM PROGRAM LOS ANGELES MEETING

The Petroleum Division of the American Institute of Mining and Metallurgical Engineers has arranged for a Pacific Coast meeting to be held in Los Angeles, Calif., on October 17. Three sessions are planned, morning, afternoon and evening. The morning and afternoon meetings will be devoted to general engineering problems, while the evening sessions will be given over entirely to papers on the subject of unit operation of oil pools.

The program is in charge of L. L. Brundred, vice chairman, Los Angeles, Calif., and will include the following papers:

Effect of Bottom Hole Drilling, by W A. Clark.

Velocity of Flow Through Tubing, by E. L. Davis.

The Control of California Oil Curtailment, by R. E. Allen.

Properties and Treatment of Rotary Mud, by Hallan N. Marsh.

Water Problems of the McKittrick Field, by Joseph Jensen and J. B. Stevens.

Adaptation of Modern Production Methods to Superviscous Oils at Cat Canyon Field, California, by L L.. Brundred.

Development Program of a Portion of Ventura Avenue Field, by Joseph Jensen and F. W. Hertel.

Unit Operation Proposals for Kettleman Hills Field, by Robert C. Patterson.

Development of Casing for Deep Wells, by F. W. Bremmer.

Microscopic Study of California Oil-Field Emulsions, by Mahmood Abozeid.

Excursions to the near-by oil fields have been arranged for the visitors and it is hoped that Eastern members who attend the Tulsa and El Paso meetings, October 2-3 and October 13-16 respectively, will extend their itinerary to include the Southwestern meeting at Los Angeles.

P. O. INQUIRIES OUT

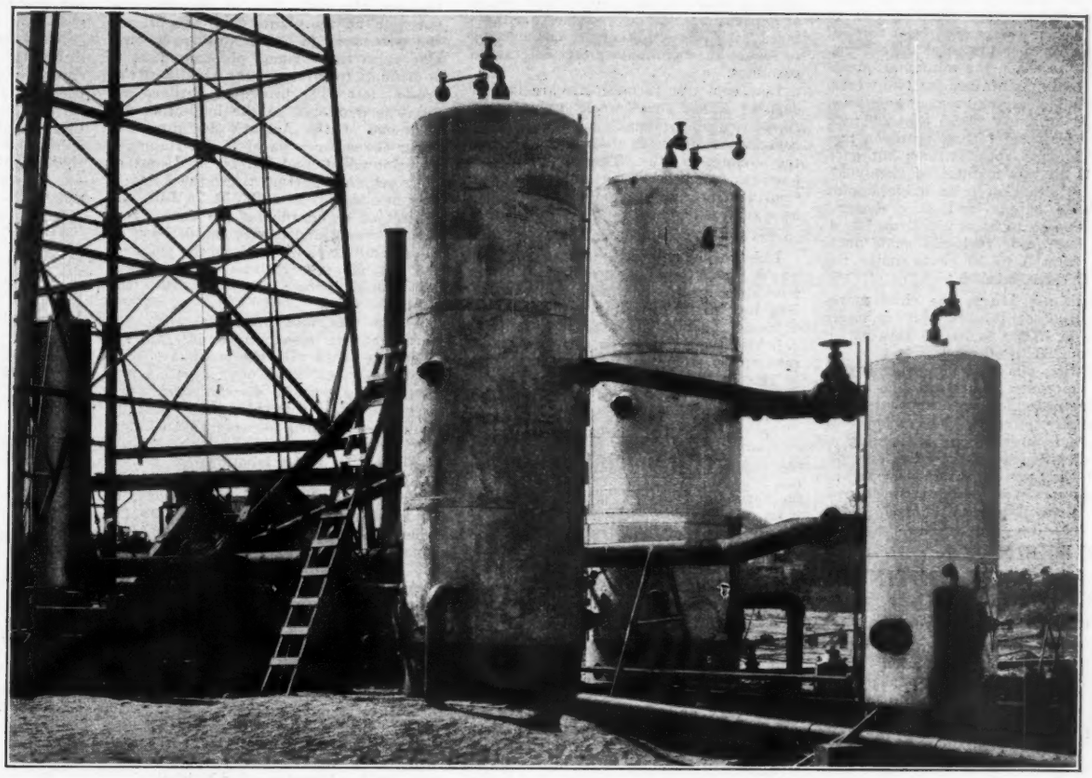
CHICAGO, Aug. 25.—The Chicago Post Office, Motor Vehicle Department, has inquiries out for its supply of motor gasoline for the final quarter of the year. The estimated quantity is 300,000 gallons per month. Bids are solicited for either the tank car or tank wagon deliveries.

SKELLY TO SELL ETHYL

The Skelly Oil Co., of El Dorado, Ark., has been licensed by the Ethyl Gasoline Corp. to blend and sell Ethyl Gasoline through its own stations and through jobbing customers.

The New NATIONAL WAY*

* Patents Pending

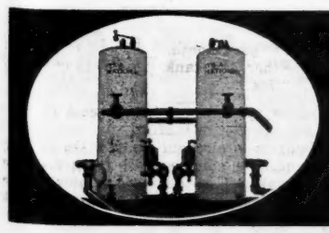


- - of bringing in high pressure oil and gas wells! - - - - - - - - - -

In areas where drilling operations are called to a halt whenever a new well comes in—thereby wasting time and upsetting the regular routine—this New National method of bringing in new high pressure wells is being speedily adopted. The flow of the well is handled without the usual scattering of slush and oil over everything in striking distance and, more important, without danger to property and lives from wild gas.

A "Sand Hog" of special design is placed over the well head and receives directly the first flow—from here the mud, water and sand is passed on to the "Mud Trap." As soon as the well has cleaned itself, a gate valve directs the flow through the National Separators. The "Mud Trap" can then be removed but the "Sand Hog" remains on the job.

A great deal of interest has been shown in this New National Way of bringing in wells and if you would like further data or information it will be cheerfully furnished on request.



NATIONAL TANK CO.

TULSA OKLAHOMA

SLIGHT IMPROVEMENT IN COASTAL REFINED MARKET

HOUSTON, Tex., Aug. 26.—Although not indicated in firming of prices a slightly improved tone was felt in the Gulf Coast refinery market the past week and sellers were optimistic as to the future. The bottom has been reached in gasolines in the opinion of buyers who are unable to shade the minimum quotation of 7 cents maintained for two weeks.

Fuel oils for cargo movement continued to be held at a low of 75 cents. There was some shading of that figure on material of inferior specifications but good Bunker C oil was maintained firmly although the situation from a standpoint of available supply and slow demand does not appear to be overly firm. Movement of low grade fuel was made on a basis of from 5 to 10 cents under the Bunker C cargo market..

Although not heavy, the chief movement on fuel at this time is in barge lots of from 10,000 to 20,000 bbls. which brings from 80 to 85 cents.

Lubricating oils showed no change. A routine movement continued the dominating factor which was not sufficient to bring any strengthening and yet it was ample to prevent any weakening of quotations. Sellers apparently are determined that present quotations are as low as is consistent with costs of production. Gas oil was unchanged.

WEAK REFINERY MARKET CONTINUES

(Continued from Page 36)

in wholesale and retail quotations would bring about more stable market conditions. The first development appears less probable than it did early in the summer and for that reason market observers point to the other remedy as the only possible way out of the present dilemma.

In this connection, it is assumed that if the major companies find it necessary to reduce domestic and export prices to meet competitive conditions they will also deem it expedient to make some adjustments downward in crude oil prices. The fact that prices on practically all other refined products are also exceptionally low adds to the probability of this development.

Gasoline and Naphtha

U. S. Motor gasoline is quoted in the Mid-Continent for northern shipment on a basis of 5½ cents to 6½ cents basis Group 3. Resale material has been sold under the low of this spread and Middle Western refiners who are active in the spot market continue to quote delivered prices which would net around 5 cents if purchased in Oklahoma.

The high gravity situation is unchanged. Except for the independent buying previously mentioned, there has been no export buying, although all grades have been freely offered at attractive prices. The 400 endpoint grade is selling as low as 5¾ cents with a one-fourth cent differential for the 390 and 375 endpoint grades. The 68-70, 350 and 360 endpoint grades are not so freely offered. The naphtha price situation is unchanged.

Natural Gasoline

The natural gasoline situation has already been explained. All grades are quoted at 5½ cents. Although buying is not as active, no excess material at lower prices for August delivery was reported the first of the week. A few sellers who had oversold for August were buying from other manufacturers.

Kerosene

Kerosene sales to consumers have increased and several refiners state that their shipments to their own station outlets and to jobbers have increased. The period extending from August to the latter part of October generally brings a heavy kerosene demand in the agricultural sections.

In Oklahoma the 41-43 water white grade continues to be quoted at a low of 3 cents.

Fuels

Except for the selective buying of furnace oil material, there is little activity in the spot fuel market. The average refiner is trying to reduce his output of the heavier fuels realizing that little improvement in demand is in prospect for the immediate future. Selling a fuel oil residuum at a price range of 42½ to 50 cents a barrel is an unprofitable phase of present operations and most refiners faced with this situation are endeavoring to secure the maximum yields of cracked gasolines.

Low cold test furnace oils are in fair demand and next week several refiners will start making shipments on contracts made with distributors during the summer months. The volume of this business from Oklahoma and other Mid-Continent refining groups apparently will be exceptionally large.

Lubricants and Wax

Lubricating oils are unchanged. The recent reductions in prices of bright stocks, steam refined stocks and neutrals has not materially improved the spot movement. The contract movement is fair and there have been some export inquiries for steam refined stocks.

The better feeling in regard to wax continues. Price ranges are unchanged on material for prompt shopment.

Late Fields

(Continued from Page 48)

be running high on structure and may extend production in that area. A core was taken at 3,885-3,905 feet but nothing was showing and it was drilling deeper at 3,930 feet.

Anderson-Prichard Oil Corp.'s No. 1 Pesthouse, SW cor. NW Section 1-11-3w, Oklahoma City Pool, made 735 bbls. the first hour and 10,165 bbls. the first 21 hours. The tract is owned by Oklahoma City and was acquired years ago for almost nothing for a pesthouse or detention hospital.

Cromwell-Franklin Oil Co.'s No. 1 Lincoln Park, SW cor., Section 12-12-3w, a wildcat north of the main pool, was shut down at a total depth of 4,507 feet, with nothing showing in the Tonkawa series topped at 4,300 feet. The test was believed to be running low on the structure and may be abandoned.

Mid-Kansas Oil & Gas Co.'s No. 1 Messer, SW cor., Section 32-14-3w, a wildcat west of Edmond, Oklahoma County, cored a sand at 6,705-10 feet with a showing of oil which is believed to be the Wilcox sand. The test has had several showings of oil and gas for nearly 150 feet, all of which will be tested.

Sinclair Oil & Gas Co.'s No. 4 School Land, 67, NE cor. SE SE, Section 36-11-3w, was pulling casing to abandon after finding salt water in the Wilcox sand at a total depth of 6,877 feet. The test was plugged back and tested failing to make a producer it is being abandoned.

The extreme south end of the field is believed to be defined by the Prairie Oil & Gas Co.'s No. 1 V. Sudik, NW cor., Section 5-10-2w, Cleveland County. It was shut down after bailing salt water at a total depth of 6,896 feet, for two days. It may be drilled deeper or abandoned.

The production from the Oklahoma City Pool was 98,216 bbls. from 52 wells with a total of 455 wells completed in the pool, on the gauge of August 26.

NEW JAPANESE REFINERY

The Mitsubishi Oil Co., Ltd., Tokio, Japan, will start at once on the construction of a complete oil refinery near that city under the supervision of D. D. MacGregor, representative of the Associated Oil Co., San Francisco, who will become a vice president of the Japanese company. The refinery will be jointly operated by the Associated and Mitsubishi companies and will manufacture a complete line of perroleum products from crude oil supplied by the Associated company from its California production. The products will be marketed by the Mitsubishi interests in Japan, Korea, Formosa and other parts of the Orient.

ATLANTIC REFINING CO. MODIFIES DOCTOR TEST TO IMPROVE RESULTS

The Atlantic Refining Co. has adopted a modification of the ordinary doctor test for the inspection of gasoline and kerosene at its plants and has offered the procedure to other refiners to use who raise the common objection that it is difficult to interpret the results of the present test. The procedure outlined below was developed in the inspection department of the Atlantic Refining Co. under the supervision of H. M. Hancock, superintendent, and Dr. H. V. Hume of the research department. At the Atlantic City meeting of the A.S.T.M. in July, the subject of standardizing the doctor test was discussed and it was the decision of the committee to discontinue the work on the grounds that it believed the doctor test would become obsolete within the next few years.

While this idea was generally supported, it was also pointed out that refiners are faced with the problem of supplying "sweet," good odor gasoline and kerosene to certain discriminating jobbers and until something more definite could be developed to serve as an index, the doctor test would likely retain its usefulness in many laboratories. Dr. T. D. Delbridge, process supervisor, kindly offers the results of the work done, to be tried and applied in those instances where the present method proves inadequate and doctor tests are required.

Method Described

Atlantic Refining Co. method for detection of compounds in light petroleum distillates which react with sodium plumbite:

Scope

This method is the well known "doctor" test and is applicable to naphtha and kerosene.

Apparatus

The test shall be carried out in standard cylindrical 4-ounce sample bottles, the inside diameter of which shall be approximately 33 mm. The bottles shall be fitted with clean cork stoppers.

Reagents Required

(a) Sodium Plumbite (Doctor Solution). A plumbite solution shall be prepared containing 120-140 grams of NaOH per liter and 20-30 grams of PbO per liter.

Note—Considerable experience with this test indicates that the procedure for preparing the plumbite solution as recommended in th Bureau of Mines method 520.3 in 323B results in solutions of widely varying lead content. To obtain accurate results it is advisable to use solutions of the concentration indicated.

This solution is most conveniently prepared by dissolving approximately 125 grams of NaOH in 1 liter of distilled water, adding 60 grams of PbO and agitating the mixture with air for a period of six to eight hours at a temperature of 150-175° F. After cooling to room temperature, the solution may be brought back to its original volume by addition of distilled water. Undissolved litharge should be allowed to settle out and the clear liquid should be siphoned off into a container protected from the air. Filteration through an asbestos mat may be employed if the solution does not settle clear.

(b) Sulphur. Pure dry flowers of sulphur, ground and screened to 100-200 mesh shall be used and shall be kept in a closed container to protect from dust.

Procedure

To 5 cubic centimeters of the plumbite solution in a standard test bottle add 10 cubic centimeters of the sample to be tested.

Note—Given a standard plumbite solution, the two most important variables are the volume of sample to be tested and the interfacial area between the sample and the plumbite solution. Both of these factors determine the concentration of the dark precipitate which discolors the sulphur film and is used as the criterion of judgment as to whether a sample is doctor sour or not.

Stopper tightly with a clean cork and shake vigorously for 15 seconds. Add a quantity of pure dry sulphur just sufficient to cover the interface between the sample and the plumbite solution, stopper the bottle, shake vigorously for 15 seconds and allow to settle.

Note—It is important to avoid the addition of more sulphur than will just cover the interface, otherwise the dark precipitate will be diluted by the excess sulphur and the interpretation of the test thereby affected. With finely ground sulphur, as specified, 20-25 milligrams is the proper quantity. This amount can be accurately estimated with a little practice.

Interpretation of Results

If on agitation of the plumbite treated sample with sulphur, the sulphur film becomes discolored or flecked with brown or black, the test shall be reported positive and the sample considered "sour."

Note—In many samples which have been examined, it has been noticed that if the sample is even slightly sour a colored "lace like" emulsion tends to form between the sample and the plumbite solution.

When agitation of the plumbite treated solution with sulphur results in no discoloration of the yellow sulphur film, the test shall be reported negative and the sample considered "sweet."

Note—The appearance of an immediate black precipitate on the addition of the sample to the plumbite solution is indicative of the presence of hydrogen sulphide. If no immediate precipitate is formed but the sample becomes opalescent and much darker in color after shaking with the plumbite solution, the presence of dissolved elemental sulphur and mercaptans is indicated. In the presence of mercaptans and absence of hydrogen sulphide and dissolved elemental sulphur a clear yellow solution of varying intensity usually results.

MID-CONTINENT AND PURE JOIN IN GASOLINE LINE

The Mid-Continent Petroleum Corp. and the Pure Oil Co. are to participate in the gasoline pipe line which is to be built from Oklahoma to the Great Lakes by the Great Lakes Pipe Line Co. according to an announcement Tuesday in New York. The latter company was organized by the Continental Oil Co. and the Barnsdall Oil Corp.

The Mid-Continent corporation operates the largest refinery in the Mid-Continent at West Tulsa. The Pure Oil Co. which operates several refineries has two plants in Oklahoma, one located at Ardmore and the other at Muskogee.

ICE FROM PETROLEUM GAS

A company known as Cia. Industrial de Carbone, S. A., a subsidiary of an American company, has recently been formed in Tampico, Mexico, for the manufacture of dry ice from petroleum gas. The carbon oxide gas from petroleum wells under a well-head pressure of 1,000 pounds will be utilized for manufacture. The initial production will be 20 tons daily, increasing with demand to 500 tons. The dry ice will be exported to the United States by rail and in specially constructed holds of vessels. The loss in shipment is expected not to exceed 2 to 3 per cent.

GASOLINE IN CZECHOSLOVAKIA

Czechoslovak authorities are investigating the reasons for the recent increase in gasoline prices, which are claimed to be an important factor in all the Czechoslovak industries and trade and may cause an increase in the cost of living. An unfavorable effect on the national budgets is also anticipated. On the other hand, the advance will further sales of 'Dynalkol," a domestic motor fuel of alcohol, benzol and gasoline, which can be sold for less than the increased gasoline price.

FROM THE FINEST STEEL IN THE INGOT

Extraordinarily good steel is the principal reason for the extraordinarily good performance Pittsburgh Seamless High Tensile Casing is giving many big producers.

Even though the original ingot from which it is made is *all* high-quality steel, frequently not more than fifty percent of it is judged worthy of the high standard set and maintained in our mills for the production of Pittsburgh Seamless High Tensile Casing. Ingots and Billets are carefully cropped of everything except the most excellent steel before they are pierced, rolled and normalized into the finished product. Pittsburgh Seamless carries with it the assurance of *full* safety in high tensile casing, even in the deepest wells. It is available in 95,000 and 110,000 lbs. per square inch minimum tensile grades.

Pittsburgh Steel Products Co.

Division of

Pittsburgh Steel Co.

Pittsburgh New York Detroit Chicago
St. Louis Tulsa Houston

Pittsburgh Seamless

HIGH TENSILE CASING

Of Interest to Sales Departments

PLAN TO SELL AUTO ACCESSORIES ALSO

NEW YORK, Aug. 25.—Leading oil companies engaged in direct marketing are considering a considerable diversification of stocks carried at their filling stations, following the attention directed toward this phase of marketing by the action of Standard Oil Co. of New Jersey in stocking tires at its retail stations.

While individual companies have not as yet made official announcement regarding their plans in this direction, it is reported that a number of large integrated units will not only follow the New Jersey company's lead and stock tires at their stations, but will also add to their service station stocks batteries, headlight bulbs, automobile windshield wipers, and various sundries of this type, for which there is a settled demand. In addition, it is indicated, a number of companies will stock candies and cigarettes which may be automatically vended through machines installed at filling stations.

Standard Oil Co. of California, which is expected to add tires to its retail line, has been selling automobile bulbs and windshield wipers for some time at its stations, largely as a matter of accomodation to customers, and the increasing volume on these products has attracted attention to the possibilities of retail demand for other supplies which may be profitably carried at the retail stations.

A number of leading companies are reported negotiating with various tire manufacturers looking to the stocking of tires. The importance of this upon the tire business is attested by the fact that leading mail order houses, which had announced price advances on their lines of tires following the end of their "summer sale" periods, have cancelled these advances.

Retailing of tires by oil companies, it is pointed out, will not only increase the net revenues from retail stations, but will likewise lower in some measure operating costs of the oil companies, practically all of which are large buyers of tires for use on their own automotive equipment.

PLANT TAKEN OVER

CHATHAM, Ontario, Aug. 23.—McColl-Frontenac Oil Co. of Toronto and Montreal has taken over the assets of the Bloss P. Corey & Son Distributing Co., Ltd., of Petrolia, which recently made an assignment for benefit of creditors. The Petrolia plant will be used as a distributing station for McColl-Frontenac products.

NEW EDELEANU UNITS

Additional units of the Edeleanu Process are being installed in five refineries in scattered locations over the world. An additional plant is being built for the treating of kerosene at the Union Oil Co.'s refinery in Wilmington, Calif., two plants are under construction for the Anglo-Persian Oil Co., one at Abadan, Persia, and the other at Grangemouth, Scotland. One new unit is being installed in the Anglo-Mexican Petroleum Co.'s plant in Minatitlan, Mexico, and a second unit is being assembled at the Palembang. Sumatra, refinery of the Standard Oil Co. of New Jersey.

OUTING OF ILLINOIS MARKETERS

CHICAGO, Aug. 23.—The annual summer outing of the Illinois Petroleum Marketers Association took place at the Starved Rock State Park on Wednesday, August 20. There was no formal program, the efforts in this direction being confined to a brief address of welcome. The attendance was made up in part of Chicago oil men who motored down from the city to the park.

CRACKING URGED AS THE ANSWER TO EUROPE'S REFINING PROBLEM

By Paul Truesdell
Universal Oil Products Co.

The nations of Europe, generally, are facing similar oil problems to those that are worrying us in this country, with some additional ones peculiar to themselves. Overproduction and low prices are problems which some nations have in common with us.

Others, which have no oil industry of their own, are very anxious to establish such an industry in order, first, to give themselves an independent oil supply in time of emergency; second, to build up an industry that will give employment to their citizens; and third, to keep the money spent for gasoline and other petroleum products in their own countries instead of letting it travel across the sea. A study of European publications shows that Europe is more and more turning toward the cracking process as a solution for both types of problems.

Not only are private business interests in Europe giving more and more thought to the possibilities which the cracking process holds for them, but governments as well are showing a great deal of interest. One of the latest significant utterances on the subject of cracking in Europe is found in the Argus, published in Bucharest. This paper is a financial daily, corresponding somewhat to the Wall Street Journal.

The July 10 issue of this paper carried as the leading article on the front page an editorial headed "Cracking." This word, by the way, has become almost universal in the languages of the world, which is significant of the importance with which the cracking process is regarded everywhere. The article was written by the editor-in-chief of the paper and consisted of an analysis of the petroleum problems in Rumania, suggesting government-aided cracking as a remedy.

A few quotations from the editorial will have a familiar ring to American oil men. For instance, the writer says:

"The illness which is affecting at present the oil industry is excessive production of paraffin pacura (fuel oil). This product, although containing precious substances which may be extracted through a chemical process, is not in demand at the time being.

"The freight from factory (refinery) to Constantza (the Black Sea shipping port) is higher than the value of the product. The only way to improve the value of paraffin pacura for which the refineries have no further storage space would be to put into operation the special chemical process adapted to it by all the oil-producing companies of the world and even in nonproducing countries, the so-called cracking."

It is known by students of world oil conditions that this article does not in any way exaggerate the difficulties of the Rumanian refiners. They are in even worse position than some American refiners, inasmuch as there is no market for their fuel oil, and it is choking refining operations as it continues to accumulate in their limited storage.

After a few sentences in which the editor describes briefly what cracking is, he goes on to say:

"Practically all oil companies in the country which are founded with foreign capital have already introduced the cracking process. Some Rumanian enterprises are also endeavoring to adopt it." The editor then goes on to point out that it was only the development of cracking which made possible the numerous advances in the use of automobiles and railroads, and that cracking has increased the average yield of gasoline from crude oil from 24 to 60 per cent.

Again, the editor says: "At the present moment all our engineers and all oil leaders agree that general adoption of the cracking process is imperative for the Rumanian oil industry. There is a difficulty. A cracking installation, however small, say for 30 to 40 carloads of paraffin pacura per day, costs a great sum. That part of the industry which is financed with Rumanian capital is unable to make such an investment today.

"Foreign capitalists are now fully convinced that an investment in Rumania in cracking installations would be profitable, but they hesitate to make such investments because of excessive taxation. Without a guarantee of reduced taxes and opportunity to make more profits, foreign capital will be hard to induce to invest in cracking in our country."

Here is the remedy proposed for the situation by the editor: "If the government wants to stretch out a helping hand to the largest Rumanian industry, if it wishes to prevent its destruction, the government should do for the petroleum industry what it strives to accomplish for agriculture, because the present situation cannot last much longer without disaster. The government wants to collect millions, in order to insure the profitableness of agricultural labor, by cheap credit. It should consider that the same concern is due to the oil industry, which even at the present crisis brings millions worth of strong currency into the country."

The extent to which the cracking process is gaining ground in Rumania is indicated by an article recently published in Petroleum Times of London. This article described what it conceived to be probably "the longest continuous cracking run ever made in Europe while processing a fuel oil charging stock." This run was made at the Campina Refinery of the Steaua Romana and continued for 1,019 hours, or 42½ days. "The type of operation," the article went on to say, "is known as flashing."

"Some interesting facts of the run are that 16,990 metric tons—equivalent to 114,800 bbls.—at the rate of 2,700 bbls. a day of oil were cracked, with a total coke production of only three tons. This is less than .02 per cent by weight and shows the degree of control of coke formation that this method of operation has obtained. No less than 35 per cent, by volume, of 200° C. (392° F.) endpoint benzine was produced from a cracking stock consisting of a 90 per cent Rumanian fuel oil residue and 10 per cent cold filtrate blend. This blend had a specific gravity of 0.931.

"The Steaua Romana has a modern cracking installation of three large Dubbs units. The carrying out and results of this run, which compares favorably with any obtained in America or elsewhere, are indicative of the progress that is be-

(Continued on Page 158)

TAX RULING MADE

SALEM, Ore., Aug. 23.—No refund of gasoline taxes may be made until the fuel has actually been used for purposes other than the operation of motor vehicles upon the highways of the State, the Attorney General, I. H. Van Winkle, has advised the Secretary of State. An affidavit of the purchaser showing the intention of such purchaser to use the fuel for purposes which would render the same exempt from taxation is not sufficient to authorize a refund, the Attorney General held.

TO DISCUSS AVIATION FUELS

CHICAGO, Aug. 23.—In connection with the National Air Races held in this city during the week of August 25-30, it has been planned to hold a meeting of aviation engineers at the Palmer House to discuss the problems of aviation fuels. This meeting, which will take place on August 28, will be under the direction of the aeronautical division of the Society of Automotive Engineers. Wesley L. Smith, superintendent of the eastern division of the National Air Transports, will be in charge of the meeting. Addresses have been listed by E. E. Aldrin, Standard Oil of New Jersey; C. S. Fieldner, Navy Bureau of Aeronautics; S. D. Heron, Air Corps, Material division; C. M. Larson, Sinclair Refining Co., and W. A. Perkins, Pratt & Whitney Air Craft Co. The addresses will be confined to 15 minutes and be devoted to the subject of aircraft fuel. The meeting will be at the Palmer House.

GAIN IN WAX BOTTLES

The wax-impregnated milk bottle has been introduced in Newark, N. J., by the Borden Farm Products Co., Inc. Health officials of Newark and New Jersey state officials have approved the use of the wax bottle commonly known as the sealcone bottle.

The bottle is moisture proof and air tight when delivered at homes and other users of milk. It takes the place of glass bottles. It is only used once and has advantages over the glass bottle due to that fact. From the milk dealers' standpoint it is estimated that the new bottle represents a saving of 46 per cent in weight and 50 per cent in space.

The bottle was introduced in New York City last year. It is estimated that between 50,000,000 and 60,000,000 of these containers will be used in that city this year. The new development promises to furnish a large outlet for petroleum wax.

CODE COMMITTEE ADDITIONS

W. H. Ferguson, chairman, Rocky Mountain Region Code Committee, has appointed W. M. Cameron, Shell Oil Co., Missoula, Mont., a member of the Montana Code Committee of the American Petroleum Institute. He has also enlarged the membership of the Colorado Code Committee by the addition of the following: Harlo Bennett, Paramount Oil Co., Trinidad; LeRoy H. Miller, Post Office Service Station, Boulder, and J. A. Lentz, Continental Oil Co., Denver.

William Thompson, American Oil Co., Charleston, W. Va., has been appointed a member of the West Virginia Code Committee of the American Petroleum Institute.

STUDY WYOMING BLACK OILS

Engineers attached to the Laramie, Wyo., field office of the United States Bureau of Mines recently made an extended trip through Wyoming collecting samples and data pertaining to the black oil fields of that State. After these samples have been analyzed, a report will be published showing the characteristics of the different crudes as determined by the Bureau of Mines Hempel method.

Wyoming has a considerable potential supply of so-called black oils, but at present a number of the wells are shut in due to the fact that there is difficulty in manufacturing commercial products from these crudes at present day prices and by the present conventional methods of refining. It is hoped that the work as conducted by the Laramie office, when finished, will give some light on better methods of refining for these black oils and thus make these crudes more desirable commercially.

TEXAS GROSS PRODUCTION, SECOND QUARTER, 1930

(Continued from Page 107)

Name and address—	Barrels	Value
Staley, J. L, & Co., Wichita Falls	3,189.62	4,264.44
Staley, Wynne & Co., Wichita Falls	225,364.25	283,025.87
Summerfield Oil Co., Tulsa, Okla.	1,6.68	243.06
Shasta Oil Co., Wichita Falls	382.29	501.52
Smith, McIntosh & Thomas, Cameron	1,182.58	1,541.75
Shell Oil Corp., Fort Worth	10,101.44	14,432.74
Sprague Oil Co., Ardmore, Okla.	11,801.60	7,646.33
Storey-Friebele-Duffey Oil Co., Winston-Salem, N. C., (6-30-30)	24,108.74	19,687.41
States Oil Corp., Eastland	33,703.70	43,462.80
Schermerhorn Oil Co., Minneapolis, Minn.	166,613.22	122,197.85
Shaw, T. G., Oil Corp., Fort Worth	89,911.62	109,889.07
Shappell Oil Co., Wichita Falls	45,589.96	63,040.98
Summit Oil & Refining Co., Amarillo	2,279.86	2,411.57
South Texas Petroleum Co., Houston	145,462.26	210,542.95
South Shore Oil Co., Houston	7,019.46	7,029.60
Skinner, E. W., Oil Co., Saratoga	4,143.09	4,614.99
Sessions, I. P., Rockdale	429.18	547.21
Smith, Mrs. James L., Amarillo	5,089.90	6,474.47
Smith & Bynum, Amarillo	1,224.98	1,248.66
Sun Oil Co., Dallas	1,251,697.74	1,327,069.85
Shell Petroleum Corp., St. Louis, Mo.	4,166,995.87	3,990,061.47
Slicker, Homer, Cisco	982.55	1,264.77
Smith, E. L., Oil Co., Inc., Mexia	156,617.80	185,126.40
Schlaffke, Edward, Electra	86.49	114.59
Schertzer Brothers, Dewey, Okla.	6,480.52	9,189.81
Staniforth, M., Wichita Falls	10,177.63	14,344.64
Smith, R. E., Houston	23,960.59	24,994.39
Sheldon, C. P., Electra	11,024.46	15,251.14
Scarborough, W. A., Burkburnett	1,839.19	2,325.39
Somerset Oil Co., San Antonio	1,066.28	1,140.91
Somerset Crude Oil & Refining Co., Somerset	2,514.12	2,[illegible].60
Seybert Brothers, Mooringsport, La.	2,090.95	3,106.82
Swanner, John L., Wichita Falls	1,6[illegible].94	2,323.59
Standard Oil Land & Leasing Co., Electra	207.09	293.86
Southern Petroleum Exploration, Inc., Sistersville, W. Va.	23,602.55	29,003.69
Stroube & Stroube, Corsicana	57,351.23	61,644.66
Sheffield Oil Co., Houston	3,9[illegible]6.24	4,572.69
Saratoga Oil Co., Wichita Falls	758.45	1,068.86
Star Drilling Co., Wichita Falls	28,050.59	40,248.25
Sedwick Oil Co., Tulsa, Okla.	9,67[illegible].69	12,159.54
Southern Crude Oil Purchasing Co., Fort Worth	2,450,790.77	1,863,026.77
Saxet Oil Co., Houston	354,750.40	364,899.50
Simpson-Fell Oil Co., Ardmore, Okla.	3,596.24	4,603.06
Simpson-Fell Oil Co., et al, Ardmore, Okla.	7,638.55	6,408.25
Saigh, N. A., San Antonio	1,091.67	1,323.85
Sinclair Oil & Gas Co., Tulsa, Okla.	92,743.94	132,385.87
Syndicate Oil Corp., Rochester, N. Y., (3-31-30)	994.73	1,225.52
Spring Creek Oil Co., Amarillo	2,624.94	2,700.46
Syndicate Oil Corp., Rochester, N. Y., (6-30-30)	902.10	1,362.82
Skia-Tex Petroleum Co., Amarillo	22,257.56	23,424.82
Syndicate Oil Corp., Rochester, N. Y., (6-30-30)	885.77	1,101.42
Simms Oil Co., Dallas	1,052,935.49	924,963.87
Sandefer Atkinson Daniel Oil Corp., Breckenridge	3,343.83	4,484.11
Slick, T. B., et al, Oklahoma City, Okla.	11,617.49	16,634.62
Scott & Walker, Albany	3,190.86	3,751.68
Sheldon, W. J., Electra	3,538.35	5,077.73
Simpson, O. H., Fort Worth	679.36	957.56
Schaffner, E. N., et al, Cross Plains	893.02	1,066.19
Scott & Britton, Graham	194.40	251.88
Scott & Nance, Graham	2,552.84	3,348.60
Savoy Oil Co., Tulsa, Okla.	28,664.23	21,761.93
Stock, H. I., Cisco	3,048.35	4,104.38
Sunray Oil Co., Tulsa, Okla.	154,460.20	167,170.38
Sullivan, M. J., Kansas City, Mo.	409.57	528.55
Smith, W. B., trustee, Eastland	429.41	526.05
Smith, H. V., Cisco	1,980.47	2,091.45
Selby Oil & Gas Co., Tulsa, Okla.	7,064.24	10,710.48
Stump, E. J., Wichita Falls	9,840.13	14,063.39
Shaw Oil Co., Wichita Falls	63,991.90	86,245.84
Spencer, H. E., trustee, St. Louis, Mo.	1,282.58	1,609.97
Stidham & Thrasher, Electra	499.67	435.42
Smith & Ash, Wichita, Kans.	9,383.79	12,798.57
Stekoll, Harry, Tulsa, Okla.	22,337.47	23,193.33
Stevoll, E. C., & Son, Graham	3,190.00	4,238.00
Storey-Friebele-Duffey Oil Co., Winston-Salem, N. C. (6-30-30)	6,345.63	5,423.61
Storey-Friebele-Duffey Oil Co., Winston-Salem, N. C. (12-31-28)	11,376.60	7,326.53
Storey-Friebele-Duffey Oil Co., Winston-Salem, N. C. (3-31-29)	9,079.32	5,901.56
Storey-Friebele-Duffey Oil Co., Winston-Salem, N. C. (6-30-29)	10,101.69	7,838.91
Storey-Friebele-Duffey Oil Co., Winston-Salem, N. C. (9-30-29)	9,736.57	9,308.17
Storey-Friebele-Duffey Oil Co., Winston-Salem, N. C. (12-31-29)	13,718.31	13,100.99
Storey-Friebele-Duffey Oil Co., Winston-Salem, N. C. (3-31-30)	21,742.61	16,589.61
Snowden & McSweeney Co., New York, N. Y.	48,234.73	63,624.15
Smith, McIntosh & Thomas, Cameron	505.23	634.30
St. Marys Oil & Gas Co., St. Marys, W. Va.	46,791.37	50,684.35
Superior Oil Producing Co., Tulsa, Okla (3-31-30)	1,815.42	2,405.42
Superior Oil Producing Co., Tulsa, Okla. (6-30-30)	1,904.39	2,614.78
Spencer, H. H., & Co., Burkburnett	150.44	215.13
T		
Tidwell, H. L., trustee, Graham	886.95	1,324.39
Teatsorth, L., Eastland	1,583.15	2,085.37
Teatsorth, L., et al, Eastland	2,512.52	1,823.57
Thompson, J. E., Humble	564.00	648.00
Talbot & Markle, Houston	5,595.74	5,835.56
Teddlie, J. E., Liberty	9,959.64	10,227.79
Trinity Townsite Co., Dallas	758.88	1,008.87
Teci Production Co., Breckenridge	2,128.08	2,178.06
Tegler, F. E., San Antonio	283.54	340.25
Taylor-Sibley Syndicate, Dallas	2,202.54	3,133.42
Tex Cal Oil Co., Brownwood	8,661.95	9,867.28
Texas Fidelity Oil Corp., Fort Worth	7,378.72	10,265.24
Tower & McKanna, Wichita Falls	15,369.87	23,614.35
Triangle Oil & Gas Co., Rochdale	757.74	984.72
Trimount Petroleum Co., Shreveport, La.	6,436.55	9,676.71
Timms, L. W., Oil Corp., Amarillo	5,576.00	6,885.03
Timms-Dietsch Oil Corp., Amarillo	5,708.27	7,308.69
Timms-Robinson Oil Corp., Amarillo	1,413.82	1,757.79
Timms-Fogarty Oil Corp., Amarillo	736.96	589.16
Treat, E. M., Oil & Gas Co., Pittsburgh, Pa.	1,276.18	1,720.29
Theis Oil Co., Sour Lake	3,170.00	3,645.49
Taylor-Link Oil Co., Houston	94,119.57	80,275.75
Texas Pacific Coal & Oil Co., Thurber	293,337.38	317,865.68
Texas Pacific Coal & Oil Co., Thurber	121,573.58	162,934.72
Turman Oil Co., Tulsa, Okla.	31,649.90	45,151.76
Tucker Oil Co., Wichita Falls	80,769.82	102,348.51
Transcontinental Oil Co., Tulsa, Okla.	12,901.34	16,932.22
Transcontinental Oil Co., Tulsa, Okla.	2,399,073.83	1,918,172.53
Transcontinental Oil Co., Tulsa, Okla.	4,690.00	6,220.02
Transcontinental Oil Co., Tulsa, Okla.	16,339.72	13,397.32
Thomas, J. A., Burkburnett	2,062.27	2,756.29
Timblin, W. E., Wichita Falls	162.14	231.85
Turman, L. C., Fort Worth	273,296.11	249,733.53
Texas Petroleum Development Co., Cameron	4,561.56	5,972.67
Tripplehorn, J. W., and D. R., Fort Worth (12-31-30)	3,098.77	4,409.75
Tripplehorn, J. W., and D. R., Fort Worth (6-30-30)	2,782.95	3,501.26
Thaxton, Nannie S., Austin	310.16	423.10
Tucker, Art, Graham	2,707.90	3,753.48
Texon Oil & Land Co. of Texas, Big Lake	99,140.36	74,944.27
Triangle Petroleum Co., Inc., Fort Worth	797.50	1,099.19
Towns, M. K., Luling	14,327.34	15,043.70
Tannehill, L. B., Albany	47,024.03	63,935.14
Trinity Production Co., Wichita Falls	510.00	707.22

(Continued on Next Page)

EST. 1830 WALL WALK LAID ROPE

EVER since the oil industry has been an industry, Wall Cable and Bull Rope performance in the fields has been proverbial.

Uniformity in manufacture—coupled with honest Quality—marks the superiority of all Wall products in durability and dependability.

On sale by

BRIDGEPORT MACHINE CO.

General Offices and Plant, Wichita, Kansas
with branches throughout the oil fields

WALL ROPE WORKS, *Inc.*

48 South Street, New York, N. Y.

Factory: BEVERLY, N. J.

Wall Cable *Wall Cat Lines*

Wall Walk-Laid Bull Ropes

Wall Manila Rope, plain laid

WALL

Billions of Bubbles

Seven Cardinal Virtues of a Gasoline Plant

CHURCHMEN used to have much to say about human virtues. Indeed, they reduced them to a sort of catalog, termed the "seven cardinal virtues." And for purposes of emphasis, that was well.

There are mechanical cardinal virtues too. The list applicable to natural gasoline plants embraces seven:

1. SIMPLICITY
2. RUGGEDNESS
3. ACCESSIBILITY
4. DEPENDABILITY
5. ECONOMY OF OPERATION
6. PRODUCTIVITY
7. LONGEVITY

Can a single design of plant possess all seven of these virtues? It not only *can*, but *does*. Campbell designed plants are *identified* by these very characteristics. Which partially explains why they are extracting more than 20% of all California's natural gasoline output.

Write today for your copy of Bulletin No. 7

J. A. CAMPBELL CO.
Natural Gas Engineers
CONSULTING DESIGNING CONSTRUCTING
PHONE-416-93
P.O. DRAWER 669
LONG BEACH, CAL.

STEARNS-ROGER MFG. CO., DENVER
MID-CONTINENT AGENCY

Originators of Oil-Froth Absorbers

TEXAS GROSS PRODUCTION, SECOND QUARTER, 1930

Name and address—	Barrels	Value
Thomas, J. Elmer, Fort Worth	280.79	393.11
Texas Petroleum Co., San Antonio	37,124.08	43,344.54
Texas Consolidated Oil Co., San Francisco, Calif.	11,392.10	15,337.81
Texas Company, The, Houston	4,361,235.43	5,308,812.86
Tholl Oil Co., Beaumont	3,606.39	5,566.56
Texas Gas Co., Houston	6,073.13	5,940.44
Tidal Oil Co., Tulsa, Okla.	289,375.75	272,185.79
Tillery, L. J., Oil Co., Inc., Beaumont	15,025.77	17,100.14
Tidwell, R. V., trustee, Graham	3,997.45	5,495.41
Travelers Oil Co., Amarillo	14,012.08	16,404.29
Traylor-Rutherford Oil Corp., Refugio	32,606.78	27,715.76
Traylor & Rutherford, Refugio	9,407.09	5,173.90
Texas Unity Oil Co., Houston	466.89	669.27
Thomson, F. L., San Antonio	43,143.68	46,534.37
U		
United North & South Development Co., Abilene	21,816.88	24,141.83
United Oil Corp., Wichita Falls	7,899.14	11,755.55
Union Oil Co. of Nevada, Abilene	609.96	914.94
Underwood Drilling Co. (Erwin lease), Wichita Falls	942.66	1,241.50
Underwood Drilling Co. (Perkins lease), Wichita Falls	3,501.48	4,622.84
Underwood Drilling Co. (U-C-Ward lease), Wichita Falls	1,589.29	2,170.83
Underwood Drilling Co. (Ward A lease), Wichita Falls	3,065.63	4,139.54
Underwood Drilling Co. (Underwood & Campbell lease), Wichita Falls	1,754.37	2,453.75
Union Producing Co., Houston	1,041,808.23	1,066,727.23
Union Oil & Mining Co., Tulsa, Okla.	8,556.78	10,867.11
Unity Oil Co., Beaumont	17,319.00	19,754.00
United Producers Co., Wichita Falls	64,798.92	92,545.34
United Royalties Corp., Wichita Falls	333.35	488.00
Union Production Co., Inc., Rockdale	3,555.82	4,295.43
Upland Oil Co. & Cady, Conner & Crenshaw, Pampa	11,091.89	13,757.24
V		
Vacuum Oil Co., Houston	40,109.62	54,509.22
Virgil Oil & Gas Co., Wichita Falls	22,359.38	29,312.06
Victor Co., San Antonio	1,272.91	1,463.84
Venmex Oil Co. of Texas, Wichita Falls	63,048.26	91,790.37
Virginia Oil Association, Inc., Fort Worth	2,372.61	3,341.12
Valerio, Inc., San Antonio	492.59	576.33
Van Cleave Trust, Baltimore, Md.	585.84	768.95
W		
Wills, O. C., Burkburnett	1,148.23	1,471.35
Weiler, H. J., Wichita Falls	474.87	660.06
Weiler, J. G., et al, Cross Plains	2,064.23	2,962.56
Wood, Benton, Lesh & McCall, Nocona	4,552.75	4,054.09
Woodson Oil Co., Woodson	1,076.51	1,184.16
Woodburn Oil Corp., Dallas	3,381.27	4,676.84
Woods & Bennett, Humble	6,840.43	7,867.33
Why Not Oil Co., Mexia	5,439.44	7,458.05
Webb Oil Co., Humble	4,668.13	5,368.35
Weekley Oil Corp., Fort Worth	19,814.10	16,453.24
West, C. K., Breckenridge	2,558.84	3,380.80
Worth Petroleum Co., Fort Worth	4,406.70	5,684.55
Wampen Oil Corp. of Texas, Houston	.....	.....
Waggoner Refining Co., Inc., Electra	259,313.63	335,382.65
Wallace & Emrick, Minerva	384.74	493.90
Wallace & Davis, Minerva	237.06	302.26
Wallace & Davis, Minerva	311.92	408.61
Webb, J. R., Corsicana	199.65	259.54
Wentz, L. H., Oil Division, Ponca City, Okla.	8,955.86	6,540.03
Westheimer & Daube, Ardmore, Okla.	1,871.30	2,390.91
Wilson, H. F., Oil & Gas Co., Tulsa, Okla.	457,765.44	592,721.63
Wise & Jackson, Sapulpa, Okla.	8,065.22	10,612.60
Woody, W. C., Wichita Falls	28,156.00	40,116.03
Wo-Mac Oil Co., Wichita Falls	19,594.68	27,595.31
World Oil Co., Fort Worth	7,938.20	6,598.40
Webb, J. R., and J. H. Bryant, Corsicana	146.67	134.94
West, J. H., Lemon Grove, Calif.	9,053.19	10,789.40
Walton, T. J., Corsicana	50.82	62.00
White, James H., Wichita Falls	7,900.07	11,070.36
Williams, J. H., Dallas	3,929.99	5,338.13
Witherspoon Oil Co. and C. L. Witherspoon, San Antonio	31,991.54	32,544.00
Warner-Quinlan Co. of Texas, Houston	282,922.33	228,473.30
Wallace, Dr. Charles W., and wife, Wichita Falls	47,850.49	67,927.08
Ward Oil Corp., Ardmore, Okla.	206,174.53	150,866.44
Wilder, Jack E., Rice	600.11	816.14
West Production Co., Houston	13,209.24	15,710.27
White & Duncan, Wichita Falls	6,235.48	8,545.31
Walker, B. S., estate, Fort Worth	685.89	835.20
Wolf, D. L., Orth (3-31-30)	7,717.75	10,064.07
Wolf, D. L., Orth (6-30-30)	9,755.21	12,728.72
Watchorn, Robert, Oklahoma City, Okla.	2,914.39	3,391.35
Wilson-Broach Co., Beaumont	11,911.43	13,589.44
Whitehill Oil Corp., Tulsa, Okla.	4,338.79	6,133.75
Wheelock & Collins, Corsicana	9,808.69	13,720.72
Witcher, Mrs. Annie L., guardian, Wichita Falls	3,551.86	5,070.51
Wills Oil Co., Rockdale	1,169.36	1,524.54
Wise & Porterfield, Graham	6,854.97	9,246.85
Wakefield, M. E., et al, Cross Plains	64.22	93.17
Weldon Oil Co., Saratoga	11,682.82	10,006.84
Witcher, W. C., et al, Wichita Falls	531.76	763.05
West, Mrs. Bessie M., Houston	1,509.95	1,736.44
Woods, C. D., and C. C., Ranger	223.68	303.89
Woods, C. D., and C. C., Ranger	814.25	1,044.50
Walfe, A. T., Wichita Falls	5,334.28	7,544.88
Worth Oil Co., Wichita Falls	3,477.12	4,597.24
Whiteside, J. E., Brownwood	328.11	387.10
Woodley Petroleum Co., Shreveport, La.	126,144.94	170,037.24
Wichita Production Co., Wichita Falls	9,642.79	13,233.41
Wilbarger Oil Co., Wichita Falls	1,353.32	1,606.82
Wilson Drilling Co., Wichita Falls	12,351.83	17,333.84
Williams & Williams, Amarillo	571.28	443.92
Wilkins, L. A., Burkburnett	3,682.95	4,971.98
Wahpoo Oil Co., Rockdale	1,246.91	1,675.75
Waggoner, E. P., and C. F. Kolp, Electra	5,182.90	6,715.26
Weaver & Pole, Wichita Falls	2,615.62	3,546.95
Waggoner, W. T., estate, Fort Worth	2,638.91	3,399.20
Walker, A. C., Albany	2,486.11	3,206.64
Whaley Co., Inc., Fort Worth	4,348.74	5,757.14
Wilson, Lee, estate et al, Wichita Falls	5,098.20	6,991.35
Welster, E. P., Tulsa, Okla.	4,661.56	6,150.96
Winrod Oil Co., Amarillo	1,811.63	2,355.12
Y		
York Petroleum Co., Stamford	71.39	83.52
Young Brothers & Alexander, Inc., Fort Worth	5,629.26	8,104.36
Young Brothers & Alexander, Inc., Fort Worth	3,297.64	4,342.25
Yount-Lee Oil Co., Beaumont	1,778,814.04	1,918,155.61
Z		
Zadie Belle Oil Co., Fort Worth	480.58	687.23
Zenith Oil Producing Co., Vernon	21,698.97	26,024.08

CRACKING URGED AS REFINING PROBLEM

(Continued from Page 154)

ing made in Europe in the operating technique of that important branch of the oil refining industry—cracking."

As is well known, the Spanish government is working out a nationalized oil refining industry, the French government is taking a considerable hand in the oil trade, and in other countries where private interests are installing cracking plants the government is regarding these with an approving eye, if it is not actively backing them with money.

Oklahoma Gross Production, Second Quarter, 1930

Oklahoma crude oil and gas production and royalty report covering second quarter of 1930, as shown by the gross production records. Royalty owners are indicated by an asterisk set opposite their names; those without the asterisk represent producers.

A

Name and address—	Barrels	M. feet	Amount
Acme Royalty Co.,* Ardmore	14,419.27	.....	$19,684.20
Acme Royalty Co., Ardmore	.....	Gas	1,612.27
Alco Royalty Corp.,* Tulsa	.....	.....	6,439.72
Atlas Drilling Co., Stroud	.....	.....	19,806.28
Atlas Royalties Corp.,* Tulsa	1,310.30	.....	2,086.66
Adams Royalty Co.,* Chicago, Ill.	.....	.....	3,894.90
Adams Royalty Co.,* Chicago, Ill.	41,746.84	.....	59,654.26
Adamson, Pete, Jr., Tulsa	.....	.....	6,970.38
Accumulative Royalties Corp.,* Tulsa	18,668.94	.....	26,121.50
Accumulative Royalties Corp.,* Tulsa	.....	Gas	370.32
American Ref. Prop. Co., Wichita Falls, Tex.	4,149.40	.....	5,773.04
American Oil & Refining Co., Oklahoma City	.....	.....	21,601.02
American Royalty Pet. Co.,* Tulsa	2,346.09	.....	3,264.53
American Oil Dev. Co., Pittsburgh, Pa.	4,218.24	.....	5,425.59
American Indian Royalties, Inc.,* St. Louis, Mo.	.....	.....	5,968.61
American Maracuba Co., New York, N. Y.	9,300.94	.....	15,846.81
Argo Oil Co., Denver, Colo.	31,222.49	.....	45,839.29
Argo Oil Co., Denver, Colo.	.....	Gas	65.62
Arkansas Fuel Oil Co., Shreveport, La.	5,743.46	.....	5,925.41
Alma Pet. Co., Oklahoma City	998.06	.....	1,198.75
Alma Pet. Co., Oklahoma City	.....	Gas	3,955.83
Atlantic Oil Prod. Co., Dallas, Tex.	217,150.07	.....	277,133.36
Atlantic Oil Prod. Co., Dallas, Tex.	.....	Gas	10,604.05
Atlantic Oil Prod. Co.,* Dallas, Tex.	19,328.05	.....	26,175.08
Atlantic Oil Prod. Co.,* Dallas, Tex.	.....	2,893	187.72
Anthony, S. W., Mounds	.....	.....	6,295.33
Atkinson, William H.,* Oklahoma City	.....	.....	23,675.15
Abraham, Joe, estate,* Bristow	.....	.....	7,121.34
Apple, S. A.,* Oklahoma City	.....	.....	14,575.47
Amster, N. L., Ardmore	5,172.01	.....	6,326.56
Amster, N. L., Ardmore	.....	Gas	493.40
Andrews, H. N., and Ethel B.,* Newkirk	.....	.....	4,573.44
Anderson-Prichard Oil Co.,* Oklahoma City	19,417.56	.....	25,375.46
Anderson-Prichard Oil Co.,* Oklahoma City	.....	Gas	4,428.00
Anderson-Prichard Oil Co.,* Oklahoma City	46,658.85	.....	65,393.30
Anderson, A. C.,* Oklahoma City	.....	.....	9,005.46
Anderson, Nettie H., Charles and Wilmer, Los Angeles, Calif.	4,701.19	.....	4,097.36
Atkinson, William H., by Prairie Oil & Gas	.....	.....	23,691.00
Alma Royalties Corp.,* New York, N. Y.	.....	.....	15,529.67
Amerada Pet. Corp., Tulsa	936,708.48	.....	1,297,037.78
Amerada Pet. Corp., Tulsa	.....	3,275,608	87,010.76
Arthur Oil Co., Sistersville, W. Va.	9,387.30	.....	11,841.98
Arthur Oil Co., Sistersville, W. Va.	.....	Gas	2,084.34

B

Blackwell Oil & Gas, Cushing	Oil	.....	378,788.79
Blackwell Oil & Gas, Cushing	.....	Gas	5,606.78
Burke-Greis Oil Co., Tulsa	142,150.48	.....	182,843.76
Burke-Greis Oil Co., Tulsa	.....	Gas	28,002.50
Burke-Greis Oil Co.,* Tulsa	4,955.51	.....	6,679.67
Burke-Greis Oil Co.,* Tulsa	.....	Gas	1,246.73
Bi-State Oil Co., Wichita Falls, Tex.	5,269.60	.....	6,427.63
Beard, J. G., S. I. Kolb, Duncan	4,419.15	.....	6,311.09
Brandenburg Brothers,* Norman	.....	.....	32,522.51
Bryan Pet. Co., Tulsa	11,156.56	.....	16,317.59
Bryan Pet. Co., Tulsa	.....	20,698	2,203.35
Belbo Oil Corp., Madill	22,250.04	.....	30,204.20
British-American Oil Prod. Co., Tulsa	37,890.36	.....	48,981.65
Babcock Brothers, Denison, Tex.	9,817.32	Gas	14,836.43
Barbara Oil Co., Chicago, Ill.	6,632.18	.....	7,876.25
Barbara Oil Co., Chicago, Ill.	.....	Gas	1,419.96
Bisett, Lytle & Gray, Tulsa	8,282.36	.....	9,897.09
Bisett, Lytle & Gray, Account No. 2, Tulsa	5,971.69	.....	6,773.92
Black, Sivalls & Bryson, Inc.,* Bartlesville	5,703.93	.....	7,926.27
Bart Royalty Co.,* Bartlesville	4,880.68	.....	7,179.27
Bart Royalty Co.,* Bartlesville	.....	Gas	187.37
Brown-Barrett Oil Prod. Co.,* Shawnee	.....	.....	19,011.01
Brown, A. J.,* Marshall	.....	.....	3,394.40
Brown, J. Jr.,* Wichita, Kans.	.....	.....	3,581.62
Snell, Katie, nee Brown,* Dustin	.....	.....	5,565.70
Brown, S. J.,* Duncan	.....	.....	3,988.06
Benedum-Trees Oil Co., Pittsburgh, Pa.	69,284.51	.....	90,749.85
Bridwell Oil Co., Wichita Falls	4,971.09	.....	5,979.02
Burlingame, C. E., Corp., Bartlesville	4,031.59	.....	5,632.08
Belco Royalties, Inc.,* New York, N. Y.	.....	.....	28,452.99
Ballard, Elizabeth,* Cushing	.....	.....	5,444.75
Bay State Oil & Gas, Kansas City, Mo.	12,113.36	.....	16,655.85
Bell Oil & Gas, Tulsa	4,381.29	.....	6,060.63
Berry Pet. Co., Tulsa	7,590.87	.....	9,531.14
Berry Pet. Co., Tulsa	.....	13,234	871.15
Berry, Charles A., Muskogee	.....	64,205	6,420.59
Berry, Thomas N., and Harriett V.,* Stillwater	.....	.....	8,573.54
Britton-Johnson Oil Co., Tulsa	5,347.87	.....	5,376.91
Brittain, W. L.,* Oklahoma City	.....	.....	2,208.00
Bailey, W. H.,* Ogden, Utah	.....	.....	6,004.53
Broyles, W. O.,* Stillwater	.....	.....	2,193.56
Benedict, G. L.,* Chandler	2,166.51	.....	3,070.83
Buttram, Frank,* Oklahoma City	Oil	.....	11,090.10
Buttram, Frank, Oklahoma City	.....	Gas	495.72
Buttram, Frank, Oklahoma City	.....	.....	2,665.66
Button, Alex.* Oklahoma City	.....	.....	5,541.02
Button, Robert,* Oklahoma City	.....	.....	7,417.20
Button, George,* Oklahoma City	.....	.....	3,322.66
Burns, C. D., Preston	11,011.00	.....	14,809.24
Braymer, A. L.,* Tulsa	2,678.66	.....	3,925.98
Bullock Oil Co., Oklahoma City	.....	.....	98,805.87
Bole, George S.,* Tulsa	1,392.03	.....	1,927.24
Bole, George S.,* Tulsa	.....	Gas	180.33
Bole, George S., Tulsa	8,840.80	14,641	12,618.53
Buell-Herndon & Co., Inc., Tulsa	22,587.78	.....	34,933.03
Bank of America Natl. Assoc., trustee, New York, N. Y.	.....	.....	4,524.14
Brunton, Fannie,* Oklahoma City	.....	.....	4,698.81
Buck, J. F.,* Shawnee	.....	.....	7,057.04
Benedict, Mary L.,* Tulsa	1,449.89	.....	2,055.18
Berryhill, Earle,* Sapulpa	.....	.....	2,947.40
Braden and Moore, Tulsa	5,229.10	.....	6,733.03
Barrett, Mrs. Mary F.,* Austin, Tex.	1,689.98	.....	2,141.44
Butcher, S. D.,* Tulsa	.....	.....	2,324.67
Brame, I. L.,* Los Angeles, Calif.	.....	.....	4,822.76
Baldwin and Suttan, Walters	18,788.19	.....	23,820.83
Boettcher Oil & Gas, Ada	.....	.....	7,042.71
Beck, O. U., Nacona, Tex.	76,384.33	.....	96,711.04
Bridgeford, J. R., & Co.,* New York, N. Y.	.....	.....	4,094.72
Bradley, Anna M., Tulsa	4,337.59	.....	5,187.45
Billington, C. B.,* Shawnee	.....	.....	16,697.77
Byrne, John, Tulsa	.....	.....	5,153.07
Bullock, V. M.,* Shawnee	.....	.....	6,106.92
Bateman, B., et al.* Guthrie	4,287.13	.....	5,358.82
Bodine, Louise,* Dallas, Tex.	.....	.....	7,535.72
Barnsdall Oil Co., Tulsa	636,280.41	.....	847,178.50
Barnsdall Oil Co.,* Tulsa	1,606.44	.....	1,935.34
Barnsdall Oil Co., Tulsa	.....	554,725	27,022.61
Brockman, E. N.,* paid by Prairie Oil & Gas	.....	.....	5,446.67
Borroto, Catherine W.,* New York City	.....	.....	17,495.68
Boring, E. M., Oklahoma City	11,260.48	.....	14,147.40
Breene, Mabel Gray, Tulsa	4,436.43	.....	5,592.71
Breene, Frank M., trust estate, Tulsa	5,373.87	.....	6,793.37
Briscoe, E. F., Oklahoma City	.....	.....	3,926.39
Bullock, H. E.,* Chicago, Ill.	.....	.....	14,115.13

C

Comar Oil Co., St. Louis, Mo.	515,989.77	.....	764,629.49
Comar Oil Co., St. Louis, Mo.	.....	490,202	27,671.25
Carter Oil Co., Tulsa	2,688,807.83	.....	3,502,497.91
Carter Oil Co., Tulsa	.....	Gas	236,164.30
Carter Oil Co., Tulsa	.....	.....	5,955.33
Carter Oil Co., (suspense) Tulsa	.....	.....	47,582.67
Continental Oil Co., Ponca City	566,229.29	.....	797,097.85
Continental Oil Co., Ponca City	.....	1,481,577	78,477.70
Caddo Oil Co., Tulsa	4,110.71	.....	4,860.70
Caddo Oil Co., Tulsa	.....	Gas	151.17
Colonial Royalties Co., Tulsa	.....	.....	3,920.92
Cortez Oil Co., Tulsa	3,626.52	.....	5,640.74
Conservation Oil Co., Tulsa	5,996.30	.....	7,488.05
Cromwell-Franklin Co., Oklahoma City	311,745.52	.....	412,164.19
Central Valley Oil Co., Cleveland, Ohio	.....	.....	8,705.10
Central Commercial Oil Co., Tulsa	2,606.63	.....	3,591.30
Central Oil Royalties, Inc.,* New York, N. Y.	.....	.....	2,117.21
Central Petroleum Co., Tulsa	5,961.72	.....	7,407.83
Cosden, Inc., J. S., Fort Worth, Tex.	110,791.82	.....	152,003.87
Cosden, Inc., J. S., Fort Worth, Tex.	.....	Gas	6,300.62
Consolidated Pipe Line Co., (suspense) Fort Worth, Tex.	.....	.....	2,875.54
Cal-Cul Oil Co., Okmulgee	.....	.....	3,158.00
Coline Oil Co., Oklahoma City	38,593.64	.....	30,434.15
Coline Oil Co., Oklahoma City	.....	Gas	289.94
Coline Oil Co., Oklahoma City	920,628.07	.....	1,270,608.13
Crosbie, Inc., J. E., and Crosbie & Robinson, Inc., Tulsa	40,694.00	.....	53,510.98
Crosbie, Inc., J. E., Tulsa	24,464.49	.....	33,313.75
Crosbie, Davis and Sloan and Sturm, Tulsa	1,501.28	.....	2,015.04
Crane, T. R., trustee,* Mannford	.....	.....	9,605.89
Cline, W. S., trustee,* Newkirk	.....	.....	2,132.29
Cedar Gas Co., Bartlesville	.....	55,209	3,864.63
Campbell, H. D., trustee, Raymondville, Tex.	.....	.....	5,992.71
Crenshaw, Mrs. Gordon P.,* Jonesboro, Ark.	.....	.....	3,392.75
Carpenter, H. C.,* Elizabeth, N. J.	.....	.....	2,823.34
Clubb, I. M.,* Kaw	4,815.02	.....	6,478.53
Clubb, I. M.,* Kaw	.....	Gas	427.30
Clubb, Laura A.,* Tulsa	.....	.....	6,895.68
Cary, John L., Okmulgee	.....	.....	5,445.46
Crews Estate Oil & Gas, Enid	6,682.12	.....	10,306.42
Crews Estate Oil & Gas, Enid	.....	7,242	627.83
Clauer, Jennie,* Galena, Ill.	.....	.....	7,975.67
Cox, Anna Elizabeth,* Ardmore	.....	.....	3,118.17
Cox, Edwin BO., and Jake L. Hammon, Ardmore	.....	.....	12,634.59
Canary, J. S., Tulsa	5,895.36	.....	7,022.21
Chestnut, O. G.,* Oklahoma City	.....	.....	9,823.91
Chestnut, Harold G.,* Oklahoma City	.....	.....	2,723.92
Chaddock Bays School,* Quincy, Ill.	.....	.....	2,296.74
Caudill, Samuel J.,* Tulsa	1,525.13	.....	2,253.19
Cowden, K. A.,* Shawnee	.....	.....	3,514.66
Clover, Jack M.,* Tulsa	1,764.81	.....	2,149.33
Clover, Goldie R.,* Tulsa	1,764.81	.....	2,149.33
Clover, Sadie R., guardian,* Tulsa	1,764.81	.....	2,149.33
Carson, H. B.,* Oklahoma City	.....	.....	2,131.66
Carey, J. L.,* Oklahoma City	.....	.....	2,114.02
Canfield, Laura,* Dallas, Tex.	.....	.....	6,210.52
Cline, W. S.,* Newkirk	.....	.....	3,400.70
Connelly, G. W., Caney, Kans.	.....	.....	7,809.56
Cornell, Herman D., trustee,* Los Angeles, Calif.	.....	.....	3,413.00
Cornell, Herman D., trustee, Los Angeles, Calif.	3,286.62	.....	5,482.52
Clark, Dillard H., Jr.,* Ponca City	.....	.....	2,419.40
Champlin Refining Co., Enid	121,454.60	.....	207,585.13
Champlin Refining Co., Enid	.....	325,030	30,711.80
Commonwealth Trust, Pittsburgh, Pa.	5,056.29	.....	5,826.87
Carmichael, Dorothy,* Tonkawa	.....	.....	2,728.22
Canadian Royalty Oil Co.,* London, Ontario	.....	.....	3,168.88
Cities Service Gas Co., Bartlesville	.....	423,872	39,286.24
Consolidated Gas Utilities, Oklahoma City	.....	391,817	29,443.31
Cree Oil Co., Tulsa	9,011.10	.....	10,372.78
Central States Production Corp., Tulsa	.....	205,032	14,264.82
Carpenter, William J.,* Lees Summit, Mo.	.....	.....	4,775.07
Campbell, J. D.,* Seminole	.....	.....	16,187.61
Cook, William Jones, trustee, Muskogee	.....	.....	37,672.63

D

Dillard, J. H., estate,* Ardmore	4,855.44	.....	5,218.01
Dunn, J. W., and Lennie,* Oklahoma City	.....	.....	2,820.10
Dunn, R. L.,* Oklahoma City	.....	.....	3,625.85
Dixon, J. L., trustee,* Wewoka	.....	.....	3,559.39
Dixie Oil Co., Tulsa	.....	48,264	3,999.84
Dixie Oil Co., Tulsa	126,565.67	.....	175,598.26
Dixie Oil Co., Inc., Tulsa	459,908.60	258,513	673,769.86
Dunmar Oil Co., Duncan	.....	.....	19,512.03
Dominion Royalty Syndicate,* Toronto, Canada	.....	.....	15,430.79
Droppleman, John, Wewoka	.....	.....	25,883.74
Duncan Wichita Falls P. L. Co., Wichita Falls, Tex.	13,473.04	.....	18,094.93
Duncan Wichita Falls P. L. Co., Wichita Falls, Tex.	.....	Gas	57.20
Denver Producing & Refining Co., Oklahoma City.	30,028.24	.....	40,003.79
Denver Producing & Refining Co.,* Oklahoma City.	15,286.85	.....	20,351.50
Denver Producing & Refining Co.,* Oklahoma City.	.....	Gas	122.43
Darby Petroleum Corp., Tulsa	.....	.....	15,984.00
Darby-Lynde Co., Tulsa	56,158.00	.....	76,663.23
Darby-Lynde Co., Tulsa	.....	Gas	5,567.78
Darby Petroleum Corp., Tulsa	352,338.58	.....	473,132.91
Devonian Oil Co., Tulsa	106,906.87	.....	147,494.47
Devonian Oil Co., Tulsa	.....	Gas	15,930.90
Dickson, J. H.,* Tulsa	5,852.43	.....	8,028.34
Delaware Consolidated Oil Co., Tulsa	44,652.22	.....	49,951.30
Doss Oil Royalty Co.,* Oklahoma City	11,103.15	.....	13,535.13
Delmar Oil Co., Bartlesville	14,141.98	.....	17,936.10
Delmar Oil Co., Bartlesville	.....	C.H.Gas	1,830.04
Delmar Oil Co., Bartlesville	.....	Gas	207.42
Dickson Oil Co.,* Tulsa	.....	.....	2,969.12
Deep Rock Oil Co. (Suspense), Tulsa	.....	.....	15,724.33
Deep Rock Oil Co., Tulsa	247,031.53	.....	341,382.09
Deep Rock Oil Co., Tulsa	16,790.37	.....	22,604.49
Deep Rock Oil Co., Tulsa	.....	C.H.Gas	2,202.78
Deep Rock Oil Co., Tulsa	.....	C.H.Gas	12,955.83
Davis, B. F.,* Wewoka	.....	.....	6,954.06
Dillon, Mrs. M. H.,* Jonesboro, Ark.	.....	.....	3,992.75
Downing, R. E., Inc., Tulsa	4,123.50	.....	5,225.62
Dings, P. C.,* Chicago, Ill.	1,596.41	.....	4,437.03
Dillard, Mrs. V. E.,* Ardmore	.....	.....	6,315.13
Douglass, O. H.,* Okmulgee	.....	.....	5,275.21
Douglass, M. S.,* Weleetka	.....	.....	3,349.73
Doneghy, J. C., Tulsa	15,960.57	.....	22,907.58
Doneghy, J. C., Tulsa	.....	Gas	540.13
Denney, C. E.,* Alma	.....	.....	2,502.04
Decker, S. D., and March E.,* Sapulpa	4,933.76	.....	7,014.27
Deaner, J. J., Okmulgee	.....	.....	11,296.44
Dilley, W. Y., trustee,* Waurika	.....	.....	3,006.04

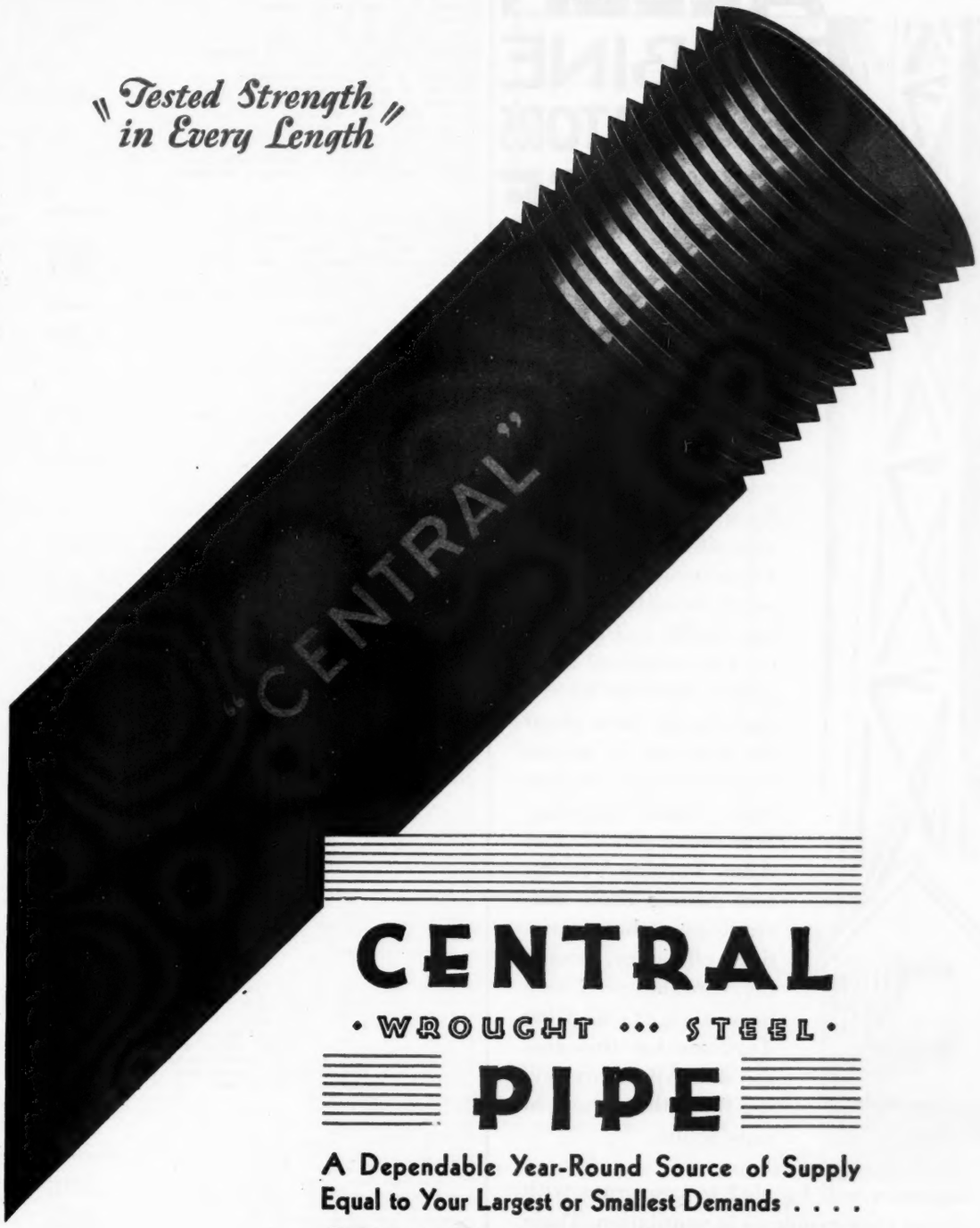
(Continued on Next Page)

OKLAHOMA GROSS PRODUCTION, SECOND QUARTER, 1930

Name and address—	Barrels	M. feet	Amount
E			
Edison, Ida Giblet,* Oklahoma City	.....	.....	6,514.11
Empire Oil & Refining Co., Bartlesville	420,327.25	.....	540,429.00
Empire Oil & Refining Co., Bartlesville	.....	Gas	20,790.45
Empire Oil & Refining Co., Bartlesville	.....	C.H.Gas	1,457.66
Empire Oil & Refining Co.,* Bartlesville	23,174.60	.....	31,364.00
Empire Oil & Refining Co., Bartlesville	.....	.....	84,747.54
Empire Oil & Refining Co., (suspense), Bartlesville	.....	.....	80,460.66
Eason Oil Co., Enid	170,855.39	.....	235,626.92
Eason Oil Co., Enid	.....	313,134	8,340.18
Eason Oil Co.,* Enid	24,572.12	.....	32,783.63
Eason, T. T.,* Enid	1,522.07	.....	2,331.29
Eason, T. T., Enid	2,130.45	.....	4,135.36
Earlsboro Production Trust No. 1, Tulsa	29,590.79	.....	41,663.74
Elm Oil Co.,* Tulsa	4,110.97	.....	5,728.44
Elm Oil Co., Tulsa	7,652.09	.....	9,196.04
Elm Oil Co., Tulsa	.....	6,928	386.09
Elm Oil Co.,* Tulsa	.....	.....	6,852.00
Ellis Drilling Co., Wichita Falls, Tex.	5,575.18	.....	6,995.86
Ellis Drilling Co., Wichita Falls, Tex.	.....	489	489.90
Elliott & Vensel, Tulsa	5,784.90	.....	6,284.42
Engineers Royalties, Inc.,* N. Y. City	.....	.....	3,929.95
Emery, Lewis, Jr., & Sons, Bradford, Pa.	4,200.49	.....	5,602.11
Eaton, Minnie B.,* Tulsa	2,319.43	.....	3,383.27
Ellison, Grace B.,* Okmulgee	1,774.25	.....	2,580.35
Eastern Royalty Corp.,* N. Y. City	.....	.....	4,433.95
Eagle Picher Mining Co., Henryetta	2,354.51	.....	3,330.07
Eagle Picher Mining Co., Henryetta	.....	77,323	4,428.28
Erickson, Faye M.,* San Diego, Calif.	.....	.....	3,225.03
Emerson, Roy,* Oklahoma City	.....	.....	2,136.21
Equitable Royalty Corp.,* Oklahoma City	.....	.....	5,197.33
Erlewine, A. J., et al, Wilson	5,892.55	.....	7,020.29
Erlewine, A. J., et al, Wilson	.....	Gas	130.76
Emergency Loan Corp.,* Wilmington, Del.	.....	.....	3,351.75
F			
Franklin, Wirt, Ardmore	323,222.58	.....	429,358.68
Franklin, Wirt, Ardmore	999,458.85	.....	1,279,482.87
Franklin, Wirt, Ardmore	.....	Gas	84,763.78
Franklin, Wirt, Ardmore	.....	Gas	4,723.39
Franklin, Wirt,* Ardmore	11,660.20	.....	14,231.73
Franklin, Wirt,* Ardmore	.....	Gas	178.38
Franklin, Wirt, by Liberty National Bank, Ardmore	3,517.76	.....	4,072.14
Franklin, Wirt, & Mary C. Cates, by Liberty National Bank	.....	.....	2,134.02
Fell, H. B., receiver for United 8 Oil Trust, Ardmore	4,918.74	.....	6,768.57
Fort Ring Oil & Gas Co., Fort Worth, Tex.	4,381.61	.....	5,694.31
Flynn Oil Co.,* Oklahoma City	.....	.....	7,573.41
Flynn Oil Co., Oklahoma City	.....	.....	4,548.04
Fern Oil & Gas Co., Yale	7,237.36	.....	9,514.35
Fern Oil & Gas Co., Yale	.....	Gas	261.89
Franchot, D. W., & Co., Tulsa	29,721.13	.....	37,671.37
Franchot, D. W., & Co., Tulsa	.....	Gas	4,296.08
Fox Royalty Co.,* Tulsa	6,887.99	.....	7,379.76
Fox Royalty Co., Tulsa	2,136.81	.....	2,499.57
Foster & Davis, Inc., Bartlesville	8,108.67	.....	10,001.58
Foster & Davis, Inc., Bartlesville	.....	C.H.Gas	289.52
Foster, James F.,* Okemah	.....	.....	2,040.88
Foster Oil Co., Tulsa	5,156.77	.....	6,818.89
Foster Oil Co., Tulsa	.....	Gas	670.88
Foster, Willard,* Tulsa	.....	.....	5,705.89
Flint & Bovaird,* Tulsa	.....	.....	6,874.35
Farwell, K. C.,* Chickasha	.....	.....	2,997.14
Fleet, Alice,* Ada	.....	.....	2,412.92
Finerty Investment Co., agt.,* Oklahoma City	.....	.....	3,846.72
Farley, G. W.,* Oklahoma City	.....	.....	13,259.73
Farley, Dee,* Oklahoma City	.....	.....	4,729.98
Fuzzell, Joe,* Oklahoma City	.....	.....	18,519.56
Fore, J. C.,* Wewoka	.....	.....	12,889.11
Folk, H. B.,* Sand Springs	1,819.22	.....	2,544.08
Federal National Bank,* Shawnee	.....	.....	2,349.77
Findley, E. G.,* Cleveland	.....	.....	3,272.62
Fields, J. W., P. S. Potts, John Zike and John Neely, Tulsa	4,116.74	.....	5,154.32
Fleet, D. F.,* Ada	.....	.....	23,746.29
Fidelity Royalty Co.,* Oklahoma City	.....	.....	2,143.44
Franco-Canadian Royalties, Inc.,* Toronto, Canada.	.....	.....	37,205.96
Flanagan, J. P.,* Tulsa	4,027.53	.....	4,400.78
Fallansbee, C. L.,* Eufaula	.....	.....	3,683.12
Fourth Natl. Bank, trustee,* Wichita, Kans.	.....	.....	2,056.81
Franz, Fritz,* Deer Creek	.....	.....	3,440.71
Franks, W. H.,* Seminole	.....	.....	5,328.32
Franks, J. S., trustee, Oklahoma City	21,534.95	.....	37,316.40
Franks, J. S., trustee, Oklahoma City	.....	Gas	1,061.09
Fortson, Effie M.,* Oklahoma City	.....	.....	3,590.74
Fenner, E. E.,* Alfred, N. Y.	.....	.....	2,090.44
Fleming & Kimbell, Sherman, Tex.	9,591.54	.....	13,653.51
Finance Oil Co., Gowanda, N. Y.	11,830.92	.....	14,664.38
G			
Gillespie, F. A., & Sons, Tulsa	15,443.77	.....	17,228.24
Gates Oil Co., Ardmore	9,253.38	.....	10,360.44
Gilcrease Oil Co., Tulsa	32,694.86	.....	33,370.41
Grisso Royalty Corp., formerly W. E. Grisso,* Enid	.....	.....	7,534.53
Gibson-Zahniser Oil Corp., Tulsa	4,928.86	9,104	7,790.14
Gardner Petroleum Co., Tulsa	8,314.20	.....	11,994.62
Glidden Oil Corp., Tulsa	4,070.89	.....	5,378.50
Garland, R. F., & Co.,* Tulsa	.....	.....	28,734.74
Guaranty Trust Co. of N. Y. City	.....	.....	11,959.06
Gled Oil Co., Tulsa	12,704.70	.....	17,034.33
Galer Oil Co.,* Tulsa	.....	.....	6,775.09
Grieves, John B., Terlton	7,144.49	.....	9,288.00
Galt-Brown Co., Ardmore	16,215.96	.....	21,359.42
Galt, Edward, Ardmore	1,688.24	.....	2,910.04
Gettner, H. B., Tulsa	.....	.....	27,268.01
Griffin, H. O.,* Konawa	.....	.....	4,847.36
Gaskill, I. E.,* Kansas City, Mo.	.....	.....	4,107.62
Giblet, Francis Pauline,* Oklahoma City	.....	.....	3,151.26
Giblet, Clifford,* Oklahoma City	.....	.....	3,151.26
Giblet, Walter,* Oklahoma City	.....	.....	3,151.26
Graham, James H., Tulsa	4,708.61	.....	6,369.79
Graham, Florence N.,* Montebello, Calif.	.....	.....	5,978.29
Graham, Florence N., trustee, Montebello, Calif.	.....	.....	5,324.50
Gibson, John J., and E. W. McNeill,* Toronto, Canada	.....	.....	3,382.55
Greer, J. C.,* Martinsville, Va.	.....	.....	2,706.74
Greer, L. L.,* Tulsa	.....	.....	2,129.84
Getzendoner, R. W., Waxahachie, Tex.	4,832.40	.....	5,677.27
Griffin, R. H.,* Konawa	.....	.....	3,445.53
Goddard Co., Ardmore	6,869.30	.....	8,923.32
Goddard Co.,* Ardmore	4,253.19	.....	4,484.39
Gilliam, Mrs. Annie,* Jonesboro, Ark.	.....	.....	3,992.75
Glass, J. Wood, and H. W. Reed,* Nowata	1,448.68	.....	1,781.70
Glass, J. Wood, Nowata	785.37	.....	1,139.14
Glass, J. Wood,* Nowata	5,537.28	.....	6,723.26
Gilmer Oil Co., Ardmore	33,212.49	.....	39,447.38
Gypsy Oil Co., Tulsa	2,571,160.89	.....	3,478,401.48
Gypsy Oil Co., Tulsa	.....	3,614,409	164,646.32
Gypsy Oil Co., for partners, Tulsa	10,080.59	.....	12,682.56
Gypsy Oil Co.,* Tulsa	.....	.....	2,476.00
Gypsy Oil Co. (suspense), Tulsa	.....	.....	138,843.00
Gypsy Oil Co. (suspense), Tulsa	.....	.....	134,605.66
Gypsy Oil Co. (suspense), Tulsa	.....	.....	4,246.00
Gypsy Oil Co. (suspense), Tulsa	.....	.....	1,091.95
Greer, J. D.,* Maud	.....	.....	2,119.55
Glenarvon Corp.,* Oklahoma City	.....	.....	3,344.70
Grimes & Gillespie, Tulsa	10,879.36	.....	14,465.19
Glass & Harmon, Nowata	9,500.88	.....	11,849.04
Glidden Oil Co., Tulsa	.....	.....	9,531.67
H			
Houghton Royalties Co.,* Oklahoma City	.....	.....	32,322.63
Harland Oil Co., Waico	15,036.32	.....	16,615.63
Harland Oil Co., Waico	.....	61,015	3,220.98
Hay & McClure, Inc., Peoria, Ill.	13,505.49	.....	19,369.17
Hall & Briscoe, Inc., Oklahoma City	32,281.41	.....	44,247.57
Houston Oil Co. of Texas, Houston, Tex.	49,961.97	.....	67,535.42
Houston Oil Co. of Texas, Houston, Tex.	.....	29,577	1,450.20
Hemlock Oil Co.,* Tulsa	5,808.05	.....	8,397.97
Hesco Oil Royalty Corp.,* New York, N. Y.	.....	.....	2,026.85
Home Stake Oil & Gas Co.,* Tulsa	.....	.....	100,395.85
Home Stake Oil & Gas Co.,* Tulsa	.....	.....	14,067.05
Henderson Oil Co., Marietta, Ohio	8,150.07	.....	9,599.77
Highway Oil Ref. Corp., Tulsa	36,377.98	.....	48,176.24
Highway Oil Ref. Corp., Tulsa	.....	125,194	1,885.51
Home Gas Co. of Cushing, Cushing	16,129.76	.....	31,741.37
Hall, J. E.,* Holdenville	.....	.....	46,541.10
Hall, E. D., attorney,* Wetumka	.....	.....	6,016.26
Hickman & Heydrick, Wichita Falls, Tex.	4,318.12	.....	5,582.57
Hickman & Heydrick, Wichita Falls, Tex.	.....	Gas	110.16
Hefner Co.,* Oklahoma City	.....	.....	15,149.47
Hefner, R. A.,* Oklahoma City	.....	.....	5,448.09
Harber, Claud,* Seminole	.....	.....	3,220.92
Harber, J. N.,* Seminole	.....	.....	4,686.16
Harber & Riddle, Inc.,* Seminole	.....	.....	2,527.68
Harber, R. T.,* Seminole	.....	.....	4,284.15
Hartley, J. C., agent,* Garber	.....	.....	3,477.96
Horton, E. N.,* Ardmore	.....	.....	2,176.98
Hernstadt, N.,* New York, N. Y.	3,442.46	.....	4,247.15
Hildt, Fred T.,* Tulsa	2,763.14	.....	4,241.26
Hiddleston, Weldon M.,* Oklahoma City	.....	.....	5,232.59
Hiddleston, Earle W.,* Oklahoma City	.....	.....	5,232.59
Hiddleston, Sarah Susan,* Oklahoma City	.....	.....	5,766.05
Hiddleston, Dale,* Oklahoma City	.....	.....	5,232.59
Hendricks, H. G., attorney, Bristow	6,498.20	.....	7,098.48
Hoopes, Mary E.,* Hickman, Neb.	.....	.....	12,891.54
Hopper, P. M.,* Lubbock, Tex.	.....	.....	3,666.83
Haun, Earl B.,* Blackwell	.....	.....	3,346.63
Hales, W. T., Oklahoma City	42,551.41	.....	50,387.56
Hales, W. T., Oklahoma City	.....	42,192	1,649.78
Hales, W. T.,* Oklahoma City	3,251.14	.....	4,185.05
Hoopes, Mary E.,* Hickman, Neb.	.....	.....	14,788.46
Haskell, Frank, agent, Tulsa	9,435.73	.....	11,059.79
Howell, Mollie E.,* Wellington, Kans.	.....	.....	2,291.28
Hanson, Edwin,* Duncan	.....	.....	4,615.27
Hyde, C. B.,* Oklahoma City	.....	.....	4,095.65
Hassman, E. A.,* Oklahoma City	.....	.....	2,446.95
Hudson, J. H., Ardmore	.....	.....	32,833.18
Harmon, C. C.,* Nowata	.....	.....	2,599.33
Harmon, C. C., Nowata	8,913.90	.....	11,331.28
Harmon & Reed, Nowata	5,066.09	.....	6,325.51
Hayes, Elizabeth Crockett, Oklahoma City	.....	.....	46,447.09
Hayes, S. W., Oklahoma City	.....	.....	43,925.28
Hudson, Hargrove,* Tulsa	.....	.....	5,052.67
Heenan Coe Co.,* Oklahoma City	.....	.....	3,287.56
Hughes, T. J., Cushing	.....	.....	7,551.87
Horton, G. D., agent, Hawarden, Iowa	.....	.....	3,275.67
Harris, V. V.,* Tulsa	.....	.....	16,298.95
Harris & Haun, Inc., Blackwell	.....	.....	15,116.17
Harris-Hays Co., Okmulgee	8,114.08	.....	10,627.97
Harris-Hays Co.,* Okmulgee	2,750.52	.....	4,916.67
Harris-Hays Co.,* Okmulgee	.....	Gas	274.30
Harris, F. H.,* Oklahoma City	.....	.....	15,393.17
Harris & Whitney,* Oklahoma City	.....	.....	2,390.69
Harris, E. L., trustee,* Tulsa	.....	.....	7,414.70
Harris, E. L., trustee, Tulsa	.....	.....	51,796.46
Halsell, Ewing,* Vinita	1,552.15	.....	2,335.32
Hull, J. A., Tulsa	29,730.97	.....	41,843.52
Hollenback, Anna W.,* Shelbyville, Ky.	.....	.....	18,155.66
Homaokla Oil Co.,* Tulsa	6,863.13	.....	7,608.88
Homaokla Oil Co., Tulsa	145,147.79	.....	163,664.19
Homaokla Oil Co., Tulsa	.....	Gas	2,183.00
Henry, J. W., Tulsa	3,429.39	Gas	5,261.98
I			
Ingram, H. L.,* Shawne	.....	.....	4,391.23
Ingram, J. A.,* Shawnee	.....	.....	10,042.53
Ingram Royalty Co.,* Shawnee	.....	.....	10,243.11
Investors Royalty Co., Inc., Tulsa	55,364.61	.....	74,273.99
Investors Royalty Co., Inc., Tulsa	.....	Gas	3,409.63
Iron Mountain Oil Co., Tulsa	21,398.27	18,829	28,470.09
Iron Mountain Oil Co.,* Tulsa	4,376.99	.....	5,958.35
Indian Royalty Co.,* Oklahoma City	19,313.07	.....	25,708.48
Indian Royalty Co.,* Oklahoma City	.....	Gas	66.57
Indiana Oil & Gas Co., Tulsa	23,751.11	.....	29,776.25
Indiana Oil & Gas Co., Tulsa	.....	19,208	3,318.97
Imperial Royalties Co.,* Kansas City, Mo.	.....	Oil	114,930.59
Imperial Royalties Co.,* Kansas City, Mo.	.....	Gas	3,976.03
Ireland, O. M.,* Sapulpa	4,324.56	8,451	5,992.41
Irwin, R. A., Tulsa	.....	.....	6,935.55
Independent Oil & Gas,* Tulsa	.....	.....	9,461.92
Independent Oil & Gas, Tulsa	593,963.15	.....	793,923.55
Independent Oil & Gas, Tulsa	.....	Gas	44,533.21
Independent Oil & Gas (suspense), Tulsa	.....	.....	3,901.32
Ice & Ice, A. B. and L. F., Drilling Co., Tulsa	6,089.46	.....	7,330.07
Ice & Ice, A. B. and L. F., Drilling Co., Tulsa	.....	Gas	82.40
Imo Oil & Gas, Covington	.....	.....	8,811.28
Indian Territory Illum. Co., Bartlesville	4,700,165.99	.....	6,290,945.97
Indian Territory Illum. Co., Bartlesville	118,437.92	.....	155,877.17
Indian Territory Illum. Co., Bartlesville	.....	5,814,079	426,486.23
Indian Territory Illum. Co., Bartlesville	.....	C.H.Gas	8,497,553 90,080.28
Indian Territory Illum. Co.,* Bartlesville	Oil	.....	2,113.22
Indian Territory Illum. Co.,* Bartlesville	.....	75,282	6,040.06
Indian Territory Illum. Co. (suspense), Bartlesville	.....	.....	123,728.53
J			
Johnson, C. O., & Geo. C. Pendleton,* Durant	.....	.....	2,748.59
Jennings, Randolph P.,* Beverly Hills, Calif.	.....	.....	7,216.19
Jennings, Helen S.,* Oklahoma City	.....	.....	3,448.47
Jennings, R. C., Pittsburgh, Pa.	4,574.08	.....	7,069.67
Jackson, L. B.,* Sapulpa	.....	.....	2,650.19
Jackson, L. B., Sapulpa	.....	.....	16,178.62
Jarvis-Zollinger & Andrews,* Shawnee	.....	.....	9,221.79
Jameson, John B.,* Concord, N. H.	7,212.09	.....	10,265.82
Jacobs, Lee, St. Louis, Mo.	7,579.37	.....	9,335.28
Johnson, James I.,* Sulphur	.....	.....	2,716.07
Johnson Oil Refining Co., Chicago, Ill.	14,490.91	.....	21,226.05
Johnson, Willard,* Shawnee	.....	.....	2,143.84
Johnson, Roy M., Ardmore	.....	.....	8,133.49
Johnson, Roy M.,* Ardmore	.....	.....	4,816.00
Jones, Robert L.,* Bristow	6,314.93	.....	8,905.29
Jones, Robert L., Bristow	.....	12,581	1,142.56
Jones, Lola Bell,* Oklahoma City	.....	.....	5,232.59
Jones, R. C., & Co.,Inc., Cushing	.....	.....	14,385.92
Jones, W. M.,* Oklahoma City	.....	.....	9,746.18
Jones, W. H.,* Oklahoma City	.....	.....	5,223.27
Jones, Edwin G.,* Oklahoma City	.....	.....	3,019.20
K			
Kreola-Colcord & Commerce, Ardmore	9,292.94	.....	10,899.47
Kreola Oil Co., Ardmore	9,334.76	.....	5,734.41
Kingwood Oil Co., Okmulgee	35,539.77	.....	49,355.85
Kingwood Oil Co., Okmulgee	.....	26,085	1,762.91

(Continued on Next Page)

"Tested Strength in Every Length"



CENTRAL

• WROUGHT ••• STEEL •

PIPE

A Dependable Year-Round Source of Supply Equal to Your Largest or Smallest Demands . . . .

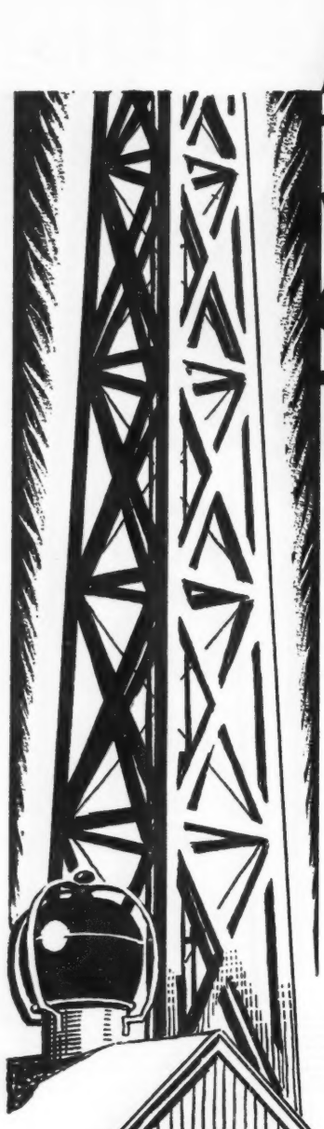
OVER a quarter of a million tons of the highest grade wrought steel pipe that modern equipment can produce—that is the measure of this company's capacity to serve the needs of the oil and gas industry.

"Central" Wrought Steel Pipe meets every service demand from the smallest to the largest sizes—every length is rigidly inspected and pressure tested to withstand actual field conditions several times over.

For consistent dependability specify "Central" Wrought Steel Pipe.

CENTRAL TUBE COMPANY - PITTSBURGH

ALLEN TURBINE VENTILATORS CHANGE THE AIR



In no industry is positive, adequate "air change" so absolutely essential as in the petroleum field. Dangerous gas, oil and gasoline fumes must be eliminated in order to protect health and property. The larger oil companies, both at home and abroad, have given the question of proper ventilation serious study. Their investigations have proved that Allen Turbine Ventilators possess three outstanding characteristics; efficiency, economy, durability. They have selected Allen Turbines for this reason and Allens are giving them the utmost in satisfaction.

Allen Engineers will be glad to cooperate with you in solving your problems in ventilation. Their services cost nothing and place you under no obligation.

THE ALLEN CORPORATION
1048 Fourteenth Street Detroit, Michigan

ALLEN AIR TURBINE VENTILATORS

OKLAHOMA GROSS PRODUCTION, SECOND QUARTER, 1930

Name and address—	Barrels	M. feet	Amount
Kay Oil Co., Blackwell	16,505.60	.....	23,910.28
Kay County Gas Co., Ponca City	.....	682,217	67,573.74
Kay and Kiowa Oil Co., Tulsa	5,391.50	.....	7,213.77
Kay and Kiowa Oil Co., Tulsa	.....	Gas	496.42
Keener Oil & Gas Co., Tulsa	37,368.62	.....	44,172.69
Kewanee Oil & Gas Co., Titusville, Pa.	187,646.17	.....	266,372.06
Kewanee Oil & Gas Co., Titusville, Pa.	.....	Gas	21,912.34
K. D. & H. Oil Co., Ada	2,386.52	.....	2,484.09
Kimble, C. C. and Sallie,* Beggs	.....	.....	3,738.18
Klein, Nettie,* N. Y. City	.....	.....	4,403.58
Knox, Charles E., Enid	31,747.32	6,837	43,815.36
Knox, Charles E., Oil Co., Enid	.....	.....	1,160.00
Kennedy, Emma B., & trustee,* Okemah	.....	.....	3,738.44
Keck, I. L.,* Nocona, Tex.	.....	.....	2,972.67
Kunderer, J. R.,* Oklahoma City	.....	.....	2,768.84
Kennedy, A. D.,* Okmulgee	.....	.....	2,403.16
Kershaw, L. R.,* Muskogee	2,665.08	.....	3,725.16
Knotts, Sarah K.,* Stillwater	.....	.....	4,613.68
Klingensmith, C. D., Sapulpa	.....	.....	5,446.00
Knappenberger, Frank,* Phoenix, Ariz.	.....	.....	5,763.16
Kanola Corp., Tulsa	.....	.....	22,050.49
Keystone Production Co., Fort Worth, Tex.	.....	.....	7,013.06
Kanner, Mack,* (Now Washington Royalty)	.....	.....	4,597.60
L			
Laurel Oil & Gas Co., Philadelphia, Pa.	35,335.80	.....	45,604.41
Laurel Oil & Gas Co., Philadelphia, Pa.	.....	179,776	4,383.04
Lowry, Lucinda H.,* Los Angeles, Calif.	.....	.....	37,050.26
Lawson Petroleum,* Tulsa	7,955.44	.....	10,282.45
Louisiana Oil Refining Corp., Shreveport, La.	81,355.64	70,963	88,787.54
Lima Oil Co., Bartlesville	2,066.07	.....	2,341.98
Lima Oil Co., Bartlesville	.....	136,018	11,163.66
L. T. C. Oil & Gas Royalty Trust, Est.,* Okla. City	.....	.....	6,604.52
Lilac Oil Co.,* Tulsa	1,499.68	.....	2,154.38
Little Nich Oil Co., Chickasha	.....	.....	9,976.38
Link Oil Co., Tulsa	17,374.80	11,292	22,750.85
Lewis, A. W.,* Harlan, Iowa	2,237.91	.....	3,376.51
Lack, Matyse B.,* Oklahoma City	.....	.....	5,228.96
Lack, D. B.,* Oklahoma City	.....	.....	3,134.76
Lack, D. B., Oklahoma City	.....	.....	5,221.07
Leavitt, R. E., trustee,* Shawnee	.....	.....	2,121.67
Lillard, Mrs. J. C.,* Wewoka	.....	.....	3,961.63
Love, Mrs. Frankie, trustee,* Denison, Tex.	1,781.58	.....	2,021.14
Little, Olive A.,* Goodwell	.....	.....	2,047.21
Longmire, W. M.,* Oklahoma City	.....	.....	2,261.02
Laselle, B. A. & T. E.,* Ada	.....	.....	2,394.70
Landon, A. M., Independence, Kans.	5,863.76	.....	7,465.20
Landon, A. M., Independence, Kans.	.....	9,440	542.57
Lohman, Mrs. S. E.,* Altus	.....	.....	2,208.67
Lohman, John,* Morton, Tex.	.....	.....	2,340.69
LeFlore County Gas & Electric Co., Poteau	.....	.....	5,730.10
Laughlin, R. W.,* Oklahoma City	.....	.....	2,074.00
Laughlin, W. T. & Lylus A.,* Oklahoma City	.....	.....	3,048.36
Leah & McCall et al, Nacona, Tex.	8,425.65	.....	6,627.39
Landowners Royalty Co.,* Wewoka	.....	.....	4,522.68
Lilami Oil Corp., Oklahoma City	.....	.....	5,045.80
Lebow, C. H., Tulsa	4,639.61	.....	6,801.56
Lone Star Gas Co., Dallas, Tex.	5,199.73	.....	4,978.95
Lone Star Gas Co., Dallas, Tex.	.....	Gas	2,403.49
Mc			
McMahon, C. L., Independence, Kans.	3,464.76	.....	4,808.11
McMahan, C. L., Inc., & C. L. McMahan, Tulsa	49,352.87	.....	68,448.67
McMahan, C. L., Inc., & C. L. McMahan, Tulsa	.....	Gas	1,775.98
McMahan, C. L., Inc., & C. L. McMahan,* Tulsa	7,396.13	.....	10,427.14
McMahan, C. L., Inc., & C. L. McMahan,* Tulsa	.....	Gas	119.78
McMan Oil Co., Tulsa	91,427.08	.....	129,973.04
McDonough, W. W., trustee,* Wewoka	.....	.....	3,264.37
McDaniel, W. F.,* Blackwell	.....	.....	2,545.45
McCroskey, Edgar L.,* Asher	.....	.....	16,407.57
McCartney, E. M.,* Alma	.....	.....	8,896.65
McBirney, J. H.,* Tulsa	1,934.55	.....	2,805.21
McKinley, George J.,* Independence, Kans.	.....	.....	2,923.97
McCulloch Oil Co., Tulsa	65,308.62	.....	88,870.02
McCulloch Oil Co., Tulsa	.....	Gas	1,332.97
McKee, S. H.,* Tonkawa	.....	.....	7,687.91
McGee, J. M.,* Asher	.....	.....	3,657.35
McCully, Charles & Emma,* Hennessey	.....	.....	2,627.32
McGee, R. L.,* Tuttle	.....	.....	6,639.79
McClure, Nell B.,* Warren, Pa.	1,475.36	.....	2,285.84
McGill, H. W., admr., Ardmore	.....	.....	6,023.87
McQueen, I. R., Oklahoma City	5,916.83	.....	8,243.07
McBride, W. C.* St. Louis, Mo.	.....	.....	40,792.33
McBride, W. C., Inc., St. Louis, Mo.	808.75	.....	1,030.69
McGraw Oil Co., Tulsa	16,190.48	.....	20,285.33
McGinley-Sigler Co., Fort Worth, Tex.	9,159.56	.....	7,210.13
McGee, W. L.,* Maud	.....	.....	2,447.50
M			
Magnolia Petr. Corp., Dallas, Tex.	3,370,314.59	.....	4,295,257.23
Magnolia Petr. Corp., Dallas, Tex.	.....	Gas	174,882.28
Magnolia Petr. Corp.,* Dallas, Tex.	29,952.75	.....	42,332.93
Magnolia Petr. Corp.,* Dallas Tex.	.....	Gas	2,073.00
Magnolia Petr. Corp., (suspense)* Dallas, Tex.	.....	.....	6,581.95
Magnolia Petr. Corp., (suspense), Dallas, Tex.	.....	.....	23,741.33
Magnolia Petr. Corp., (paid for others), Dallas, Tex.	.....	.....	23,304.65
Magnolia Petr. Corp., (protest), Dallas, Tex.	.....	.....	60,073.00
Myers, Alice Clark,* Santa Fe, N. Mex.	.....	.....	2,419.42
Margay Oil Corp., Tulsa	55,637.07	.....	75,352.66
Margay Oil Corp.,* Tulsa	.....	.....	2,323.35
Meridian Gas Co., Dallas, Tex.	.....	62,065	5,139.34
Midland Royalty Corp.,* N. Y. City	.....	.....	80,024.09
Mul-Berry Oil Co., Cushing	.....	.....	165,453.81
Mid-Continent Petr. Corp., Tulsa	1,499,895.61	.....	2,004,678.07
Mid-Continent Petr. Corp., Tulsa	.....	Gas	82,763.41
Mid-Continent Petr. Corp.,* Tulsa	7,046.31	.....	7,561.42
Mid-Kansas Oil & Gas Co., Findlay, Ohio	381,761.68	.....	496,712.64
Mid-Kansas Oil & Gas Co., Findlay, Ohio	.....	625,953	17,634.74
Madden & Madden, Lexington, Ky.	13,693.01	.....	18,892.49
Mudge Oil Co., Pittsburgh, Pa.	19,140.71	.....	14,652.18
Mullendore Trust Co., Cleveland	Oil	.....	22,929.17
Mullendore Trust Co., Cleveland	.....	Gas	5,630.12
Mullendore Trust Co.,* Cleveland	.....	.....	3,378.92
Minnehoma Oil & Gas Co., Tulsa	149,858.02	.....	210,040.91
Minnehoma Oil & Gas Co., Tulsa	.....	513,163,418	15,394.97
Midco Oil Corp., Tulsa	21,582.98	.....	29,291.44
Marileen Oil & Gas Co., Blackwell	5,322.49	965	7,628.03
Mammoth Royalty Corp.,* Oklahoma City	3,026.12	.....	4,115.42
Markham, J. H., Jr., Tulsa	18,377.95	.....	23,728.33
Moore, J. Read,* Wewoka	.....	.....	3,251.64
Meadors, Frank, Jr., Wetumka	3,555.64	.....	4,839.05
Milner, Jonas B.,* Allen	.....	.....	4,491.86
Mitchell, Samuel D.,* Lubbock, Tex.	.....	.....	2,702.93
Mayes, E. L.,* Tulsa	.....	.....	17,670.41
Merrick, Ward S., Ardmore	.....	.....	7,467.80
Montgomery, Junia E., Hickman, Neb.	.....	.....	8,628.03
Minor, Laveda,* Amarillo, Tex.	.....	.....	4,006.89
Meyer, Annie,* Sapulpa	.....	.....	2,659.26
Misener, F. D.,* Tulsa	7,551.61	.....	8,514.27
Misener, F. D., Tulsa	.....	Gas	210.74
Mathis, M. P.,* Shawnee	.....	.....	6,860.44
Maxey, J. H.,* Oklahoma City	.....	.....	2,327.62
Mason, D. B., Tulsa	18,643.64	.....	21,180.38

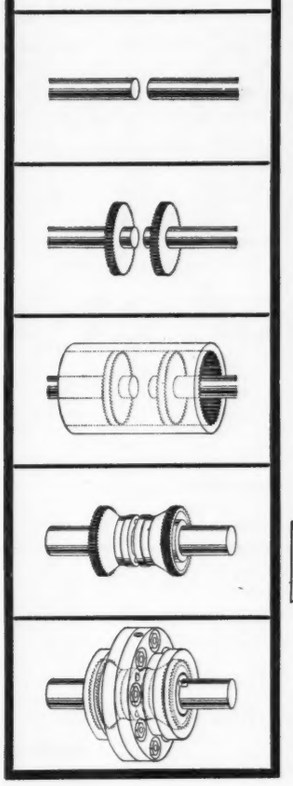
(Continued on Next Page)

OKLAHOMA GROSS PRODUCTION, SECOND QUARTER, 1930

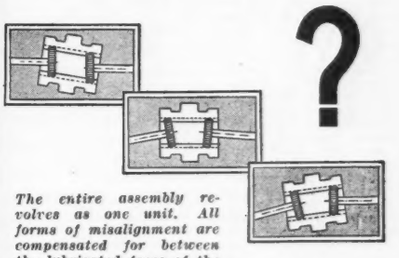
Name and address—	Barrels	M. feet	Amount
Mussellem, Sophia S.,* Muskogee	3,417.49	.....	5,098.76
Maines, J. W.,* Ada	.....	.....	2,309.23
Murphy Oil Co. of Pa., Philadelphia, Pa.	8,218.77	.....	8,973.79
Mayhue, W. E.,* Ada	.....	.....	2,077.44
Mayhue, George M.,* Ada	.....	.....	4,870.56
Morgan, Dudley D., Tulsa	.....	.....	5,630.55
Million and Thomas,* McAlester	3,461.10	.....	4,142.36
Melton, Alice, administratrix,* Duncan	.....	.....	2,538.31
Miller Brothers 101 Ranch,* Marland	.....	.....	4,801.11
Magruder, G. W., and Myrtle,* Sulphur	.....	.....	6,511.25
Merrick, Inc., F. W., Ardmore	Oil	.....	61,498.78
Merrick, Inc., F. W., Ardmore	.....	Gas	329.60
Metcalf, R. J.,* Fort Worth, Tex.	.....	.....	2,082.72
Mainard, M. F., Jr.,* Wewoka	.....	.....	2,209.65
Mason, W. G.,* Chelsea	10,638.03	.....	13,116.00
Maud Oil & Gas, paid by Prairie Oil & Gas	6,500.28	.....	9,180.31
Malernee Oil Co., Oklahoma City	4,592.88	.....	6,284.19
N			
National Oil & Development Co., Tulsa	9,366.45	.....	10,874.06
National Refining Co., Cleveland, Ohio	13,119.43	.....	18,896.68
National Union Oil & Gas Co., Blackwell	5,089.37	.....	7,214.95
National Union Oil & Gas Co., Blackwell	.....	Gas	494.37
New England Pipe Line Co., Boston, Mass.	5,081.77	.....	6,767.31
New York Petroleum Royalty Corp.,* New York, N. Y.	2,019.14	.....	2,901.84
Norbla Oil Co., Tulsa	6,310.16	.....	8,473.58
Norwood Oil Co., Tulsa	7,360.93	.....	8,779.46
Nester Oil Co.,* Alex	.....	.....	2,932.91
Nowata Oil & Refining Co., Tulsa	.....	.....	6,080.15
Nowata Oil & Refining Co., Tulsa	.....	Gas	653.51
Nowata Oil & Gas Co., Tulsa	.....	.....	6,733.66
Newman, Lillie Korns, Coffeyville, Kans.	2,117.84	.....	2,498.32
Nelson, R. L.,* Webb City, Mo.	.....	.....	2,089.97
Nichols, G. A.,* Oklahoma City	.....	.....	12,137.47
Norvell, A. S.,* Wewoka	.....	.....	2,939.05
North, R. B.,* Blackwell	.....	.....	2,598.58
Newkham, W. G.,* Maud	.....	.....	2,501.66
Norris, W. C., Tulsa	.....	.....	9,118.58
Noble-Olson Drilling Co., Tulsa	26,733.81	.....	33,869.61
Noble, Margaret Vivian,* Tulsa	.....	.....	16,159.78
Noble, Lloyd,* Tulsa	.....	.....	1,091.54
Noble, Hattie E.,* Ardmore	.....	.....	2,718.55
Noble, Eva E.,* Ardmore	.....	.....	3,629.36
Neal, Justina,* Mayaville	.....	.....	3,662.56
Neustadt, Walter,* Ardmore	.....	.....	5,577.18
Nisbett, Carrie L.,* Tecumseh	.....	.....	4,875.72
Natural Gas Producers, Corp., Tulsa	.....	363,164	35,653.02
O			
O'Rourke Oil Co., Bristow	6,498.20	.....	7,098.48
Omega Oil Corp.,* Chicago, Ill.	.....	.....	2,033.66
Ona Oil Co., Blackwell	.....	.....	23,880.31
Osage Gas Producing Co., Independence, Kans.	454.44	.....	549.14
Osage Gas Production Co., Independence, Kans.	.....	80,640	7,257.60
Ohio-Osage Oil Co., Tulsa	4,713.45	.....	7,105.85
Ohio Fuel Supply Co., Columbus, Ohio	14,661.93	.....	19,058.55
Ohio Fuel Supply Co., Columbus, Ohio	.....	Gas	604.00
Oklahoma Public Service Corp., Cedar Rapids, Iowa	5,721.42	.....	8,094.45
Oklahoma Co., Tulsa	10,430.61	62,765	19,414.46
Oklahoma Gulf Royalty Corp.,* Tulsa	.....	.....	2,174.92
Oklahoma Natural Gas Corp., (suspense)	.....	.....	1,746.00
Oklahoma Natural Gas Corp.	.....	253,153	17,138.18
Olean Petroleum Corp., Bristow	Oil	.....	2,108.58
Olean Petroleum Corp., Bristow	.....	Gas	4,283.32
Osborn, W. B.,* Ada	.....	.....	8,340.05
Osborn, W. B., estate,* Ada	.....	.....	2,540.62
Owens, D. R., and Carl,* Chandler	.....	.....	2,043.37
Owens, O. O., Tulsa	7,730.17	.....	10,471.56
Oliphant, A. G., Tulsa	7,109.46	.....	7,019.86
Olds, Helen B., Russell B., and Horace B.,* Charles City, Iowa	.....	.....	61,461.87
Orwig, S. S.,* Wewoka	.....	.....	10,182.28
Owens, Mrs. Josie,* Seminole	.....	.....	2,502.93
O'Dell, Ollie B.,* Richmond, Calif.	.....	.....	3,103.94
Osborn, W. B., and D. F. Fleet and John L. Fleet,* Ada	.....	.....	5,561.51
Oklahoma Natural Gas Corp., Tulsa	.....	.....	17,138.33
Oil Production Royalties, Inc.,* Elizabeth, N. J.	.....	.....	6,653.92
P			
Prairie Oil & Gas, for H. T. Worley	.....	.....	10,312.00
Prairie Oil & Gas, for Joseph Zacherle	.....	.....	27,075.34
Prairie Oil & Gas Co., Independence, Kans.	3,148,779.11	.....	4,261,242.81
Prairie Oil & Gas Co., Independence, Kans.	.....	Gas	37,761.66
Prairie Oil & Gas Co., Independence, Kans.	.....	C.H.Gas	209,910.90
Prairie Oil & Gas Co., for others	.....	.....	17,766.80
Prairie Oil & Gas Co., for William H. Atkinson	.....	.....	23,691.00
Prairie Oil & Gas Co., for E. N. Brockman	.....	.....	5,446.67
Prairie Oil & Gas Co., for Glidden Oil Co.	.....	.....	9,531.67
Petroleum Co., The, Tulsa	10,646.52	.....	13,422.80
Petroleum Co., The, Tulsa	.....	12,975	703.32
Petroleum Co., The, Tulsa	4,134.31	5,913	5,433.76
Petroleum Royalties Co.,* Tulsa	.....	.....	120,545.74
Petroleum Royalty Corp.,* Tulsa	16,114.85	.....	21,806.62
Producers Oil Co., Tulsa	15,131.25	.....	20,082.00
Producers Royalty Corp.,* Tulsa	.....	.....	11,438.41
Producers & Refiners Corp., Independence, Kans.	.....	769,459,814	30,516.59
Producers & Refiners Corp., Independence, Kans.	298,749.29	.....	348,202.41
Pierce, R. H., & Co., Inc., Tulsa	.....	.....	4,969.80
Pierce Petroleum Corp., Sand Springs	23,572.37	.....	31,442.57
Paraffine Oil Co., Houston, Tex.	7,637.27	.....	8,764.82
Penn. Ohio Gas Co., Pittsburgh, Pa.	11,989.61	.....	15,380.40
Phillips Oil Co., Chelsea	4,216.91	.....	5,169.01
Phillips Petroleum Co., Bartlesville	493,719.77	.....	650,044.47
Phillips Petroleum Co., Bartlesville	.....	Gas	64,286.66
Phillips, Waite,* Tulsa	1,502.11	.....	2,268.20
Plymouth Petroleum Co., Tulsa	7,783.87	.....	9,714.45
Plymouth Petroleum Co., Tulsa	.....	Gas	158.67
Pawnee Oil Production Co., Tulsa	3,902.43	.....	5,235.85
Peerless Oil & Gas Co.,* Indiana, Pa.	5,985.07	.....	8,594.16
Peerless Oil Production Co., Tulsa	5,294.51	.....	8,173.37
Peerless Oil Production Co., Tulsa	.....	5,702	456.18
Plains Petroleum Co., Inc., Tulsa	6,697.54	.....	8,904.42
Plains Petroleum Co., Inc., Tulsa	.....	6,453	686.60
Pure Oil Co., Chicago, Ill.	1,159,742.54	.....	1,563,014.88
Pure Oil Co., Chicago, Ill.	.....	553,061	34,550.98
Pure Oil Co., gasoline division, Chicago, Ill.	.....	221,010	24,959.81
Perkins and Cullum, Wichita Falls, Tex.	12,517.23	.....	15,222.24
Perkins and Cullum,* Wichita Falls, Tex.	3,197.22	.....	3,679.12
Perpetual Royalty Corp.,* St. Louis, Mo.	.....	.....	3,567.60
Pandem Oil Co., Wichita Falls, Tex.	3,669.69	.....	5,342.00
Paragon Oil Co., Tulsa	4,325.17	.....	5,407.19
Paragon Oil Co., Tulsa	.....	2,553	599.34
Privett Drilling Co., Maramec	2,344.15	.....	3,050.52
Privett Drilling Co., Maramec	.....	40,111	2,252.10
Papoose Oil Co., Tulsa	90,419.17	51,770	129,248.04
Pouder Pomeroy Co., Tulsa	61,090.30	.....	92,748.54
Provident Royalties Corp.,* Tulsa	7,958.42	.....	11,413.63
Pace, George L.,* Wichita Falls, Tex.	2,445.13	.....	2,712.13
Pace, George L., Wichita Falls, Tex.	50,525.76	.....	57,349.97
Pine, W. B., Okmulgee	10,325.49	.....	14,532.26
Pine, W. B., Okmulgee	.....	29,438	1,879.61
Pine, W. B., Okmulgee	.....	49,712	3,615.53

(Continued on Next Page)

See the simple development of Fast's Coupling. A spur gear on each shaft end, a sleeve with internal gears to mesh. Oil in the sleeve carries the load between the teeth.



How does FAST'S Coupling Avoid Coupling Shutdowns ?



The entire assembly revolves as one unit. All forms of misalignment are compensated for between the lubricated faces of the gear teeth.

GO BACK over your plant records (or in your memory) and you will find that practically every shut-down for shaft coupling repairs has been caused by the failure of some flexible pin, bushing, spring, disc or grid.

Fast asked the question, "Why not do away with these flexible parts, and remove this threat of coupling shut-downs?"

Here was his answer! See the diagrams. See how he employed a simple mechanical principle, by which shaft misalignment was compensated for between the lubricated teeth of generated gears. Nothing to be flexed. Nothing to fatigue and fail. Nothing to be replaced periodically.

Nothing but a simple mechanical assembly which, if oiled like any other piece of transmission equipment, will last as long as the connected machines.

There is a Fast's coupling for practically every condition met in industry. Send in the coupon and get the new 10th Anniversary bound catalog that tells the convincing story of why and how every new piece of equipment should be connected with Fast's self-aligning Couplings. It's free for the asking. No catalog file is complete without one.

Fast's Couplings at Oklahoma City, Indian Territory Illuminating Oil Company.

THE BARTLETT HAYWARD CO.

218 Scott Street, Baltimore, Md.

Send me the free bound copy of the new Fast's 10th Anniversary Catalog showing varieties of designs and installations, containing valuable data on coupling installation.

NAME.....

FIRM NAME.....

ADDRESS.....

CITY AND STATE.....

OKLAHOMA GROSS PRODUCTION, SECOND QUARTER, 1930

Name and address—	Barrels	M. feet	Amount
Pine, W. B., and Phillips Pet., Okmulgee	2,096.64	.....	2,808.20
Pine, W. B., and Phillips Pet., Okmulgee	.....	2,659	266.98
Pine, W. B., Okmulgee	81,027.16	.....	105,074.09
Peddycoart, R. O., Court Line	.....	.....	2,443.79
Pondren, W. W.,* Houston, Tex.	.....	.....	2,141.44
Potts, Mallie Dale,* Yale	.....	.....	4,453.26
Priddy, G. G., and Nell,* Cypress, Calif.	.....	.....	3,575.43
Patterson, Seth N.,* Kansas City, Mo.	.....	.....	2,480.45
Palmer, S. T., Okemah	.....	.....	4,231.48
Panca, Spiro,* Shawnee	.....	.....	2,200.35
Pioneer Pet. Co., Tulsa	10,361.75	.....	12,694.44
Pioneer Pet. Co., Tulsa	.....	5,237	419.05
Phoenix Oil Co., Pittsburgh, Pa.	.....	.....	7,156.16
Priboth, Lillie M.,* Blackwell	1,829.22	.....	2,728.63
Priboth, F. F., Blackwell	1,816.23	.....	2,710.53
Phelps, Lula E.,* Oklahoma City	.....	.....	9,817.85
Probst, George C.,* Tulsa	.....	.....	3,481.39
Pharoah, O. J.,* Henryetta	.....	.....	5,645.31
Patterson, Mrs. Leona L.,* Duncan	4,143.79	.....	5,176.27
Powers, M. F., and Anna L.,* Tulsa	24,060.64	.....	32,170.40
Powers, M. F.,* Tulsa	6,147.70	.....	8,415.08
Pyramid Oil Co., Winchester, Ky.	5,504.87	.....	6,377.69
Phillips, W. G., and J. B. Milam, Chelsea	44,006.95	.....	53,574.11
Petroleum Rights Corp.,* New York, N. Y.	.....	.....	11,069.11
Q			
Quimby, John,* Montebello, Calif.	.....	.....	3,327.65
R			
Rogers, W. G.,* Oklahoma City	.....	.....	2,684.12
Rogers Oil & Gas Co.,* Holdenville	.....	.....	22,836.83
Rogers, B. H.,* Holdenville	.....	.....	22,159.91
Rogers, Leslie,* Tulsa	3,616.97	.....	5,049.00
Rogers, Calloway, and Rosa,* Earlsboro	.....	.....	11,343.57
Royalty Corp. of America,* Tulsa	.....	.....	44,180.79
Royalty Corp. of America, paid by Pure Oil Co.	.....	.....	13,937.31
Royalties Management Corp.,* New York, N. Y.	.....	.....	20,347.35
Royalties Trustee Corp.,* Wilmington, Del.	.....	.....	6,298.93
Ryan Consolidated Pet. Corp., Tulsa	5,382.60	.....	7,291.68
Reed, Frank H.,* Neosho, Mo.	.....	.....	25,422.57
Reed, Frank H.,* Neosho, Mo.	.....	Gas	741.74
Reed, Isabella,* Neosho, Mo.	11,099.34	.....	15,689.28
Reed, Isabella,* Neosho, Mo.	.....	Gas	842.76
Reed, Frank H., and Isabella, Neosho, Mo.	46,781.64	.....	62,846.45
Reed, Frank H., and Isabella, Neosho, Mo.	.....	Gas	3,748.94
Rena Royalty Co.,* Tulsa	.....	.....	7,643.35
Red Bank Oil Co., Tulsa	57,385.53	.....	73,273.02
Red Bank Oil Co., Tulsa	.....	Gas	1,569.10
Regal Oil & Gas Co., Tulsa	24,624.54	.....	42,941.87
Robinson, E. L.,* Tulsa	.....	.....	2,643.00
Robinson, E. L., Tulsa	7,230.30	.....	8,524.04
Reiter-Foster Oil Co., Tulsa	44,386.49	.....	60,839.68
Reiter-Foster Oil Co., Tulsa	.....	Gas	500.48
Reiter-Foster Oil Co.,* Tulsa	2,563.28	.....	4,026.60
Reserve Pet. Co., Tulsa	16,395.84	.....	20,968.32
Reserve Pet. Co.,* Tulsa	1,627.37	.....	2,386.63
Reynolds Oil & Royalty Co.,* Oklahoma City	10,900.13	.....	14,833.14
Reynolds Oil & Royalty Co., Oklahoma City	.....	Gas	64.32
Riverland Co., Tulsa	7,944.29	.....	11,571.82
Riverland Co., Tulsa	.....	Gas	642.15
Reliance Oil Co. (Houston), Houston, Tex.	4,582.45	.....	5,227.26
Reliance Oil Co. of Okla., Houston, Tex.	4,448.32	.....	5,349.58
Reliance Oil Co. of Okla., Houston, Tex.	.....	Gas	2,317.77
Ramsey Pet. Corp., Oklahoma City	101,884.77	.....	108,958.06
Regan, L. E.,* Shawnee	.....	.....	3,606.00
Richardson, D. A., Oklahoma City	6,763.02	.....	9,145.54
Replogle, D.,* Oklahoma City	.....	.....	3,289.96
Replogle, Jamie,* Oklahoma City	.....	.....	4,448.58
Replogle & Johnston,* Oklahoma City	.....	.....	18,283.32
Richards, C. L.,* Tulsa	3,483.70	3,442	3,807.81
Rone, John, and Sudie,* Walters	.....	.....	2,354.20
Richey, Sue,* West Tulsa	.....	.....	3,540.06
Rowe, E. M., Cyril	28,647.05	.....	36,183.02
Roth, C. E., Independence, Kans.	4,291.71	.....	5,539.12
Ralph, B. B.,* Kansas City, Mo.	.....	.....	3,138.07
Rockwell, J. A.,* Warren, Pa.	.....	.....	2,512.83
Robins, J. W., Fort Worth, Tex.	6,361.68	.....	6,429.22
Rexroat, U. T., guardian, Ardmore	.....	.....	4,087.39
Rowlett, B. H., Shawnee	.....	.....	3,166.81
Richardson, Zelta,* Tecumseh	.....	.....	2,032.80
Ray Oil Co.,* Alex	.....	.....	3,585.00
Roberts, Thomas C., Princeton, N. J.	.....	.....	6,007.79
Rockland Oil Co., Ardmore	22,723.45	.....	24,190.31
Rex Oil & Gas, Winchester, Ky.	5,504.87	.....	6,377.69
Futz, Jake, Oil Co., Morris	.....	.....	8,600.71
Ray, Joe,* Chickasha	.....	.....	2,229.14
Ryan Consolidated Pet. Corp., Tulsa	5,382.60	.....	7,291.68
S			
Shell Pet. Corp., St. Louis, Mo.	1,143,104.30	.....	1,527,933.33
Shell Pet. Corp., St. Louis, Mo.	.....	28,914,411	84,798.12
Shell Pet. Corp., for partners, St. Louis, Mo.	2,716.43	.....	3,221.47
Shell Pet. Corp. (suspense), St. Louis, Mo.	.....	.....	7,332.65
Snowden & McSweeney, New York, N. Y.	.....	.....	31,547.33
Sturm Drilling Co., Ardmore	12,416.51	.....	15,517.25
Southwest Production Co., Bristow	.....	139,241	11,367.90
Shaffer, C. B., Chicago, Ill.	18,795.92	.....	21,744.14
Shaffer, J. C., Inc., Oklahoma City	26,058.64	.....	35,847.11
Sure Oil Corp., Tulsa	4,342.33	.....	6,591.24
Sure Oil Corp., Tulsa	.....	3,256	162.84
Savoy Oil Co., Tulsa	6,966.26	744,300	7,862.29
Sharum, Willard S.,* Eldon	.....	.....	3,458.31
Shasta Oil Co.,* Wichita Falls, Tex.	.....	.....	4,671.59
Shasta Oil Co., Wichita Falls, Tex.	172,030.04	.....	208,675.22
S. W. Gas Utilities Corp., Ada.	.....	.....	7,521.33
Standard Royalties of Canada, Inc.,* Toronto, Canada	.....	.....	97,488.91
Silurian Oil Co., St. Louis, Mo.	120,044.49	.....	149,172.73
Silurian Oil Co., St. Louis, Mo.	.....	78,862	4,278.02
Sneed Royalty Co.,* Tulsa	.....	.....	9,947.05
Sands Pet. Corp., Tulsa	8,260.03	.....	11,440.10
Simms Oil Co., Dallas, Tex.	91,515.17	.....	126,006.89
Simms Oil Co., Dallas, Tex.	.....	250,434	7,237.83
Slab Oil Co., Ardmore	8,732.03	.....	14,194.18
Signal Oil Co., Tulsa	45,558.45	.....	58,673.81
Signal Oil Co., Tulsa	.....	Gas	4,012.81
Skelly Oil Co., Tulsa	905,512.79	.....	1,184,825.04
Skelly Oil Co., Tulsa	.....	Gas	46,863.66
Skelly Oil Co.,* Tulsa	7,068.75	.....	9,248.22
Selby Oil & Gas, Tulsa	26,312.12	.....	30,512.41
Selby Oil & Gas, Tulsa	.....	Gas	591.68
Selby Oil & Gas,* Tulsa	4,360.99	.....	6,012.85
Slick, T. B., Oklahoma City	562,924.20	.....	755,163.04
Slick, T. B., Oklahoma City	.....	2,237,633	54,598.46
Slick, T. B.,* Oklahoma City	29,867.09	.....	40,380.94
Slick, T. B.,* Oklahoma City	.....	35,223	3,238.62
Shoreline Oil & Gas, Tulsa	29,184.17	.....	40,208.44
Southland Royalty Co.,* Ponca City	.....	.....	58,470.47
Sinclair Oil & Gas Co., Tulsa	3,324,222.26	.....	4,513,274.03
Sinclair Oil & Gas Co., Tulsa	.....	Gas	294,491.38
Sinclair Crude (suspense), Tulsa	.....	.....	173,264.00
Sinclair O'l Co., for royalty owners	3,352.04	.....	4,686.43
Sinclair, H. F.,* New York, N. Y.	.....	.....	8,782.44
Simpson-Fell Oil Co., Ardmore	20,628.50	8,900	23,771.55
Simpson, W. E.,* St. Louis, Mo.	2,073.16	.....	2,819.86
Simpson, W. E.,* St. Louis, Mo.	.....	Gas	94.29
Simpson, A. O.,* Ardmore	2,073.16	.....	2,914.15
Simpson, Susan A.,* Tulsa	.....	.....	4,931.02
Stuart, Phil N., Shawnee	.....	.....	2,424.38
Simpson, Susan A.,* Tulsa	.....	.....	2,751.78
Skelton-Moore Oil Co., Bartlesville	4,851.95	.....	6,013.05
Sampson Oil Co., Tulsa	3,953.47	18,678	5,242.65
Seminole Royalty Co.,* Oklahoma City	1,900.59	5,513	3,031.67
Sterling Oil & Gas Co., Tulsa	4,940.06	.....	5,970.41
Sterling Oil & Gas Co., Tulsa	.....	Gas	348.33
Schermerhorn-Ardmore Co., Minneapolis, Minn.	77,010.51	.....	.....
Schermerhorn-Ardmore Co., Minneapolis, Minn.	.....	31,872	85,116.33
Schermerhorn, J. B., Inc., Minneapolis, Minn.	59,570.13	.....	72,256.49
Schermerhorn, J. B., Inc.,* Minneapolis, Minn.	2,893.82	.....	3,606.69
Schermerhorn-Young Co., Ardmore	980.31	.....	1,632.38
Schermerhorn Oil Co., Minneapolis, Minn.	.....	.....	8,028.17
Smith, John,* Wetumka	.....	.....	2,026.73
Smith, Charles R., Jr., Ardmore	4,463.06	.....	5,787.09
Smith, Charles R., Jr., Ardmore	.....	12,939	1,211.29
Smith, Marie S., Ardmore	6,085.92	.....	7,127.90
Smith, Marie S., Ardmore	.....	17,225	1,641.69
St. Germain, R. J.,* Tulsa	.....	.....	3,304.66
Slogan, Agnes O.,* Falls City, Nebr.	.....	.....	6,903.82
Swindler, James A., Muskogee	4,068.52	.....	5,388.19
Selby, J. L., Muskogee	6,670.45	.....	.....
Sultan, R. H., Walter	30,914.24	.....	40,628.18
Shepherd, J. D.,* Shawnee	.....	.....	7,317.95
Scott, Lucy B.,* Holdenville	1,504.47	.....	2,357.97
Seay, Clyde & W. D.,* Oscar	.....	.....	12,362.85
Snedden, George W., Tulsa	27,638.03	.....	42,198.97
Southwick, Florence A.,* Tulsa	2,319.43	.....	3,388.27
Shimp, Ira A.,* Blackwell	.....	.....	5,446.26
Shifflin, M. B., Coffeyville, Kans.	7,572.76	.....	9,843.84
Sporieder, William,* Okemah	1,458.06	.....	2,823.34
Sherman, Laura T.,* Tecumseh	.....	.....	2,989.98
Schrader, Otto C.,* Scarsdale, N. Y.	.....	.....	2,557.80
Stacy, Mrs. Dean M.,* Oklahoma City	.....	.....	2,420.46
Sharp, Robert C., Tulsa	4,031.59	.....	5,632.08
Swan, F. P.,* Konawa	.....	.....	2,590.17
Snell, E., Jr., Dustin	.....	.....	5,824.33
Sykes, C. E.,* Ardmore	.....	.....	2,655.54
Southwest Production Co., Bristow	.....	139,241	11,367.90
Spigner, Edmon R. & Willis, Latimer	.....	.....	5,574.23
Spigner, E. R., Latimer	.....	.....	2,289.35
Sandlin, G. L., gdn.,* Henryetta	.....	.....	10,485.00
Scott, George W.,* Agra	.....	.....	4,789.72
Sangster, Joe B.,* Earlsboro	.....	.....	3,208.42
Seay, Delbert,* Waurika	.....	.....	8,576.26
Shertzer, C. P., Dewey	5,323.74	.....	5,952.43
Shields, W. J.,* Fort Worth, Tex.	.....	.....	3,753.00
Sparks, L. O., gdn.,* Oklahoma City	.....	.....	3,151.24
Sparks, Harriet W.,* Shawnee	.....	.....	3,057.02
Schonwald, Morris,* Oklahoma City	.....	.....	2,088.58
Schonwald, Dave,* Oklahoma City	.....	.....	2,124.75
Schonwald, Junia,* Oklahoma City	.....	.....	3,560.00
Smith, Will H., Ardmore	3,667.41	.....	4,127.94
Smith, Will H., Ardmore	.....	6,120	387.46
Sunray Oil Co., Tulsa	45,236.51	Gas	85,290.18
Sunray Oil Co.,* Tulsa	11,533.92	.....	15,364.07
Sunray Oil Co.,* Tulsa	.....	Gas	367.84
Selby, J. L., Muskogee	.....	.....	8,361.85
Sarasota Oil Co.,* Ardmore	2,943.26	.....	3,122.07
Stekoll, Harry, Tulsa	12,150.90	.....	16,245.15
Seay, O. W., estate,* Ryan	.....	.....	6,505.72
Summers, Mrs. George M.,* Tonkawa	.....	.....	2,728.22
Sheridan Oil Co., Tulsa	13,722.00	.....	16,298.55
Sheridan Oil Co., Tulsa	.....	Gas	3,936.29
T			
Tidal Oil Co., Tulsa	438,374.78	.....	552,001.96
Tidal Oil Co.,* Tulsa	8,078.38	.....	9,207.06
Tidal Oil Co., Tulsa	.....	Gas	22,435.45
Tidal Oil Co., Tulsa (for Cherokee-Warren Oil & Gas Co.	8,016.45	.....	9,159.51
Tidal Refining Co., (suspense),* Tulsa	.....	.....	69,245.30
Trosper, Clarence E.,* Oklahoma City	2,312.06	.....	3,139.25
Trosper, L. M.,* Oklahoma City	15,367.82	.....	20,445.38
Texas Company, The, Oklahoma City	1,124,703.72	.....	1,478,722.94
Texas Company, The, Oklahoma City	.....	Gas	101,664.13
Texas Company, The,* Oklahoma City	7,827.12	.....	11,021.37
Texas Company, The,* Oklahoma City	.....	Gas	487.59
Texas Company, The, (for partners), Oklahoma City	3,314.09	.....	5,255.00
Twin State Oil Co., Tulsa	517,272.03	.....	437,229.49
Twin State Oil Co., Tulsa	.....	Gas	18,829.00
Twin State Oil Co.,* Tulsa	.....	.....	5,731.66
Treveyn Oil Co., Duncan	.....	.....	8,787.23
Thompson, S. F.,* Okemah	.....	.....	3,404.87
Trosper Park Royalty Owners,* Oklahoma City	.....	.....	77,002.12
Tucker, T. E.,* Ardmore	.....	.....	2,079.00
Thompson, R. B.,* Tulsa	3,873.77	.....	5,143.63
Thompson, William M.,* Tulsa	3,907.49	.....	5,186.47
Tomlinson, Danire G.,* Hollywood, Calif.	.....	.....	2,218.77
Templeman Oil Corp., N. Y. City	7,178.80	.....	9,521.23
Templeton, M. E.,* Phoenix, Ariz.	.....	.....	2,664.02
Tull, Vida M.,* Oklahoma City	5,814.73	.....	9,526.09
Towes, A. W.,* Crisfield, Md.	.....	.....	2,837.43
Thomas, G. M.,* Norman	.....	.....	2,257.78
Tully, Martha Nadine (now Andrews),* Muskogee..	.....	.....	2,037.08
Theimer, B. J.,* Oklahoma City	.....	.....	14,943.76
Taylor, Dr. Joseph C.,* N. Y. City	.....	.....	3,686.47
Tri-State Royalty Co.,* Tulsa	1,926.43	.....	2,605.19
Thomas, Sidney O.,* Oklahoma City	.....	.....	3,507.11
Thiocco Oil Co., Tulsa	8,749.06	.....	12,100.38
Thiocco Oil Co., Tulsa	.....	Gas	929.02
Transcontinental Oil Co., Tulsa	93,038.14	.....	116,732.85
Transcontinental Oil Co., Tulsa	.....	332,145	20,159.73
Tulsa Oil Co., Tulsa	.....	.....	7,999.33
Turman Oil Co., Tulsa	147,165.99	.....	203,709.29
Turman Oil Co., Tulsa	.....	206,982	11,709.88
Texworth Securities Corp.,* Brooklyn, N. Y.	.....	.....	2,256.59
Texas Pacific Coal & Oil Co., Thurber, Tex.	48,857.48	5,294	42,497.76
U			
Union Oil & Mining Co., Tulsa	4,362.42	.....	5,604.57
U. S. Royalties Corp.,* N. Y. City	5,851.84	.....	8,143.20
U. S. Royalties Corp., N. Y. City	.....	Gas	231.98
Umburn, Gillia, Weleetka	.....	.....	5,472.34
Utilities Production Corp., Tulsa	.....	765,891	39,150.45
United Eight Oil Trust, Ardmore	4,918.74	.....	6,768.57
V			
Vernon Oil & Gas Co., Blackwell	.....	.....	8,602.48
Vacuum Oil Co., Houston, Tex.	114,381.53	366,209	175,934.68
Venmex Oil Co., Wichita Falls, Tex.	87,133.07	.....	99,541.12
Venmex Oil Co., Wichita Falls, Tex.	.....	Gas	38.58
Viersen Oil & Gas Co., Okmulgee	9,224.84	.....	13,072.67
Viersen, Sam K.,* Okmulgee	3,159.81	.....	4,264.73
Viersen, A. A.,* Okmulgee	17,996.64	.....	24,043.28
Viersen, A. A.,* Okmulgee	.....	Gas	694.89
Valley Osage Oil Co., Tulsa	17,876.79	.....	22,020.20
Voorhees, Leon G.,* Oklahoma City	.....	.....	10,745.68
Vance, C. C. & Mary L.,* Wewoka	.....	.....	2,199.94
Vance, S. E.,* Tulsa	1,815.24	.....	2,949.38
Vance, Mary E.,* Tulsa	1,883.79	.....	2,852.07
Vassar, Amanda,* Ponca City	.....	.....	2,489.92
VanGraafeiland, C. P.,* St. Louis Mo.	.....	.....	2,124.20

(Continued on Next Page)

EMSCO *Free-Circulation* PROTECTORS

••• *are* EASY *to handle*

They "stay put"—require limited space in the derrick and stack either on ends or sides. They are quicker—easier to handle.

EMSCO PROTECTORS score heavily, by actual comparison and test, over all other types.

The many distinct and vitally important **EMSCO** features "total up" to a degree of efficiency that justifies the tribute of "the outstanding engineering achievement in pipe protection."

Briefly summarized, a few of these features are:

Maximum Protection to drill pipe, casing, tool joints, and collars.

Four to 10 times longer life—due to exclusive design, specially treated materials, and unique method of locking on pipe.

Cannot snap off the pipe.

No restriction of circulation. Circulation space is greater than volume of fluid forced through rotary hose.

Tough rubber bumpers cannot be seriously damaged by any slight cut or tear, as neither offsets nor rubber body embody any expansion strain, being made and cured flat.

Considerably lighter, yet much stronger than previous types.

Tighter, firmer grip on pipe; will not slip, pile, nor overlap.

Insure dry pulling job; free circulation space prevents protectors pulling fluid out of hole when removed with string of drill pipe.

Installed in 30 to 35 seconds, with light, simple tools.

Easily removable from pipe when pulled out.

Get the rest of this highly important story in our new illustrated folder.

They Stack Better on the Rig!

E. M. SMITH COMPANY

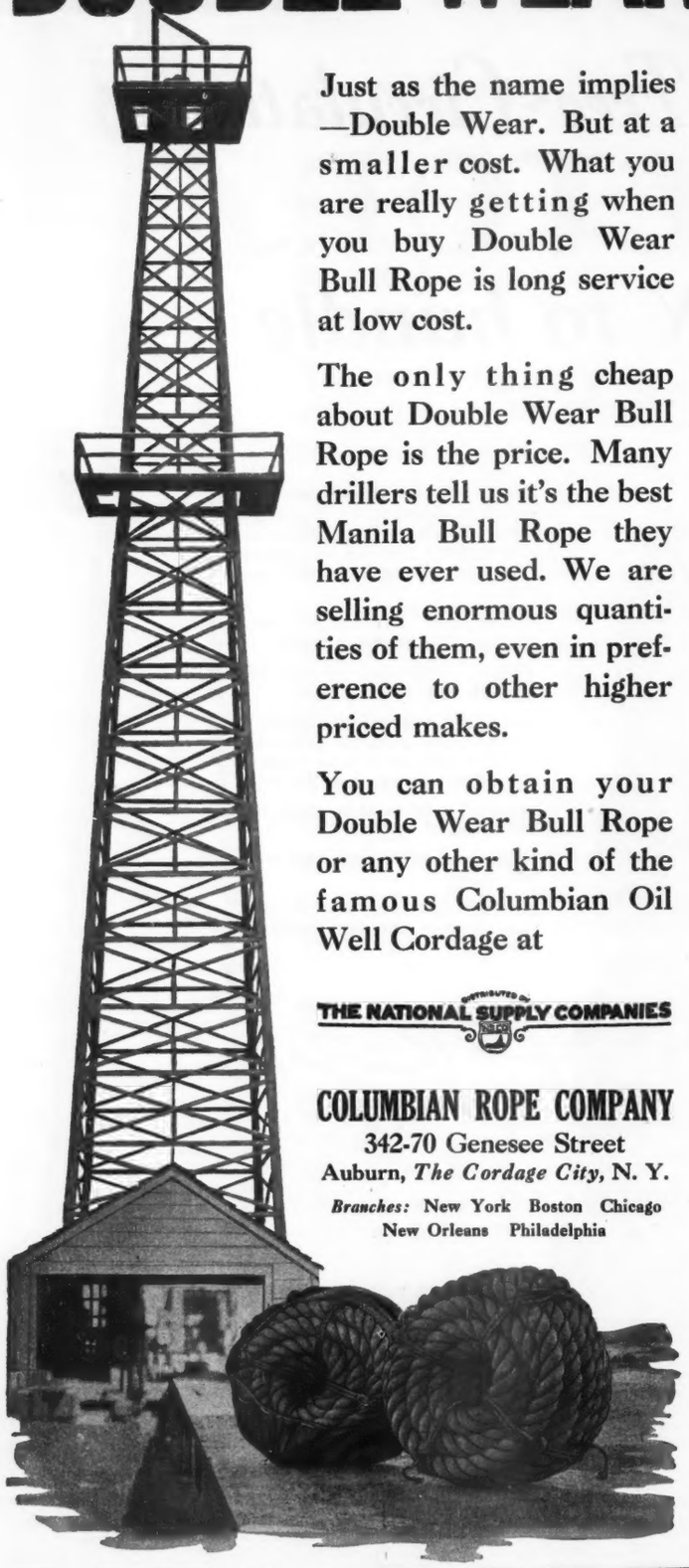
637 So. Clarence St., Los Angeles, California

Distributed by
THE CONTINENTAL SUPPLY CO.
General Offices: St. Louis

THE CONTINENTAL SUPPLY CO., Ltd.
224 Traders Building,
Calgary, Alberta, Canada

Export Offices:
CONTINENTAL EMSCO COMPANY, Inc.
74 Trinity Place, New York
London Offices: 316-17 Dashwood House, Old Broad St., E.C. 2

DOUBLE WEAR



Just as the name implies —Double Wear. But at a smaller cost. What you are really getting when you buy Double Wear Bull Rope is long service at low cost.

The only thing cheap about Double Wear Bull Rope is the price. Many drillers tell us it's the best Manila Bull Rope they have ever used. We are selling enormous quantities of them, even in preference to other higher priced makes.

You can obtain your Double Wear Bull Rope or any other kind of the famous Columbian Oil Well Cordage at

THE NATIONAL SUPPLY COMPANIES

COLUMBIAN ROPE COMPANY
342-70 Genesee Street
Auburn, *The Cordage City*, N. Y.
Branches: New York Boston Chicago
New Orleans Philadelphia

BULL ROPE

OKLAHOMA GROSS PRODUCTION, SECOND QUARTER, 1930

W

Name and address—	Barrels	M. feet	Amount
Whitehill, Howard J., and H. C. Weible, Tulsa	11,990.42	.....	14,709.72
Whitehill, Howard J., Tulsa	3,518.77	.....	4,223.72
Whitehill Oil Corp., Tulsa	17,028.25	.....	20,773.97
Whitehill Oil Corp.,* Tulsa	1,726.74	.....	2,244.93
Winona Oil Co. of Delaware, Tulsa	14,159.60	Gas	17,129.08
Winona Oil Co. of Delaware, Tulsa	24,638.80	Gas	33,844.47
Wentz, L. H.,* Ponca City	3,068.83	.....	4,553.25
Wentz, L. H., Oil Div., Ponca City	157,980.87	.....	236,626.12
Walsh Oil Co., Tulsa	5,680.60	.....	6,834.16
Western States Royalty Co.,* Great Falls, Mont.	.....	.....	2,154.66
Western Oklahoma Gas Co., Ft. Smith, Ark.	.....	102,874	10,287.40
Warner-Caldwell Oil Co., Titusville, Pa.	27,041.69	.....	32,320.28
Warner-Caldwell Oil Co., Titusville, Pa.	.....	Gas	1,140.22
Washington Royalty Co.,* N. Y. City	.....	.....	4,597.60
Washington Royalty Co.,* Tulsa	11,967.91	.....	15,822.69
Washington Royalty Co., Tulsa	.....	Gas	2,050.98
Watchorn Oil & Gas Co., Oklahoma City	9,466.37	.....	13,498.88
Westerly Oil Co., Bartlesville	4,381.06	.....	5,901.82
Westerly Oil Co., Bartlesville	.....	Gas	41.31
Wellsville Oil Co., Wellsville, N. Y.	10,745.07	.....	13,048.52
Wolverine Petr. Co., St. Louis, Mo.	164,851.13	.....	200,852.65
Wolverine Petr. Co., St. Louis, Mo.	.....	247,983	13,881.11
Westland Oil Co., Tulsa	24,988.59	.....	33,113.31
Westland Oil Co., Tulsa	.....	50,510	1,289.20
Wiser Oil Co., Sistersville, W. Va.	95,093.71	.....	113,104.60
Westheimer & Daube, Ardmore	112,538.26	.....	135,194.14
Westheimer & Daube, Ardmore	.....	Gas	3,468.44
Westheimer & Daube,* Ardmore	18,288.62	.....	18,885.29
Westheimer & Daube,* Ardmore	.....	Gas	587.48
Wood, Jim,* Konawa	.....	.....	3,264.19
Woods, W. E.,* Cox City	.....	.....	2,472.52
Wood Oil Co., Tulsa	.....	.....	14,126.60
Wood, Roy,* Oklahoma City	.....	.....	16,361.41
Warren, Charlie R.,* Oklahoma City	.....	.....	16,854.49
Warren, Mrs. Margaret,* Oklahoma City	.....	.....	42,975.64
Walcott, C. W., gdn.,* Coweta	.....	.....	2,284.60
Watrous, Ernest,* Shawnee	.....	.....	2,438.22
Welsh, J. L., Blackwell	1,979.88	.....	2,904.96
Welsh, Carrie B.,* Blackwell	1,779.88	.....	2,865.68
Wilson, Irvin,* Wewoka	.....	.....	3,791.99
Worley, H. T., (paid by Prairie O. & G.)	.....	.....	10,312.00
Wright, J. H., estate, Sapulpa	18,726.44	.....	24,706.02
Wright, J. H., estate, Sapulpa	.....	Gas	1,674.16
Wright, James,* Bristow	.....	.....	2,964.03
Wright, Archie K.,* Muskogee	.....	.....	2,021.85
Wright, Archie K.,* Muskogee	.....	.....	2,139.04
Wallace, J. E., Okmulgee	.....	.....	11,248.73
Wallace, W. L.,* Shawnee	.....	.....	3,068.62
Wallace, Mary A.,* Topeka, Kans.	.....	.....	13,283.62
Watkins, F. E., est.,* Waurika	2,979.39	.....	3,205.56
Welsh, John Thomas, est.,* N. Y. City	.....	.....	3,213.02
Wangerien, G. W.,* Okmulgee	.....	.....	2,071.63
Wheeler, John W.,* Oklahoma City	.....	.....	16,723.26
Williamson, Effie,* Oklahoma City	.....	.....	2,048.99
Warren, Chester L.,* Oklahoma City	.....	.....	17,228.22
Werner, David,* Oklahoma City	.....	.....	2,985.65
Winkler & McQueen, Inc., Duncan	.....	.....	9,644.66
Witwer, L. H.,* Tulsa	.....	.....	2,516.27
Walker, W. Leslie,* Montclair, N. J.	.....	.....	2,288.63
Walker, E. A.,* Oklahoma City	.....	.....	18,214.67
Warden, Frank,* Oklahoma City	.....	.....	2,056.68
Weeks, Margaret S., Ardmore	4,962.81	.....	5,787.07
Weeks, Margaret S., Ardmore	.....	12,936	1,211.20
Wise & Jackson, Sapulpa	18,404.40	.....	22,036.44
Welfelt, Abraham & Sadie,* Shawnee	.....	.....	4,350.57
Wood, Gilbert & Wood No. 1, Oklahoma City	.....	.....	8,132.15
Willmott, John W.,* San Diego, Calif.	.....	.....	16,246.24
Wilcox, H. F., Oil & Gas Co., Tulsa	215,023.54	Gas	285,395.48
Warren, Charles,* Oklahoma City	.....	.....	26,327.58
Wagoner, Walter, Shidler	.....	.....	32,565.48
Wilson, W. H., & Son,* Seminole	.....	.....	4,430.18
Y			
Youngblood, L. S.,* Wewoka	.....	.....	3,016.98
York Petroleum Corp.,* Muskogee	7,181.26	.....	10,306.82
Young, L. M.,* Oklahoma City	.....	.....	5,556.05
Z			
Zimmerman, L. W., Chicago, Ill.	28,093.27	.....	28,837.94
Zimmerman, L. W., Chicago, Ill.	.....	11,901	595.05

WILDCAT OPERATIONS IN OKLAHOMA

(Continued from Page 51)

GARFIELD COUNTY

Shell Petroleum Corp.'s No. 1 Loomis, C NW NW Sec. 32-23-4w ..... Wilcox 6,132 ft.; drlg. 6,261 ft.; water.

E. L. Love et al's No. 1 White, SE cor. NW Sec. 9-24-6w ..... Drlg. 5,655 ft.

GRADY COUNTY

J. V. Bailey's No. 1 Hubbard, C NE NW Sec. 1-10-6w .... Shut down 100 ft.

J. M. Henry et al's No. 1 Abraham, SE cor. NW Sec. 4-5-8w ..... Rig.

GRANT COUNTY

Bu-Vi-Bar and Amerada's No. 1 Hurst, C SW Sec. 25-26-5w ..... Drlg. 3,832 ft.

Cowden et al's No. 2 Vollmer, CEL NE SW Sec. 22-25-4w .. Shut down 5,640 ft.

GARVIN COUNTY

McMinn et al's No. 1 Carson, NE NW Sec. 5-3-4w ..... Testing 2,615 ft.

Nelson et al's No. 1 Strickland, NE NW Sec. 10-4-3w .... Shut down 2,880 ft.

GREER COUNTY

I. T. I. O. et al's No. 1 fee, C SW NE Sec. 17-6-24w ..... Drlg. 2,410 ft.

HARMON COUNTY

Harmon-Tex Oil Co.'s No. 1 Hoadley, NE cor. Sec. 17-4-24w ..... Shut down 2,330 ft.

S. M. Stauffer's No. 1 Castleman, SW NE Sec. 8-4-26w .... Shut down 625 ft.

HARPER COUNTY

Empire's No. 1 Bruce, C NE SW Sec. 12-25-20w ..... Fishing 5,570 ft.

Sinclair Oil & Gas Co.'s No. 1 Howell, C SW SW Sec. 14-26-24w ..... 7,000,000 ft. gas; fishing 5,330-40 ft.; spraying oil.

HASKELL COUNTY

I. T. I. O.'s No. 1 Blake, SW NW Sec. 3-10-21 ..... Location.

Mid-Western's No. 1 Poister, C NE SE Sec. 33-10-22 .... Drlg. 3,265 ft.

Holden's No. 1 Phillip, SE cor. Sec. 3-9-18e ..... Shut down 1,860 ft.

Marion Oil's No. 1 Sanders, NW NE NW Sec. 10-9-18e .. Shut down 2,387 ft.

Sanboise Gas' No. 1 Unknown, SW NW SE Sec. 32-9-21e .. Shut down 2,100 ft.

HUGHES COUNTY

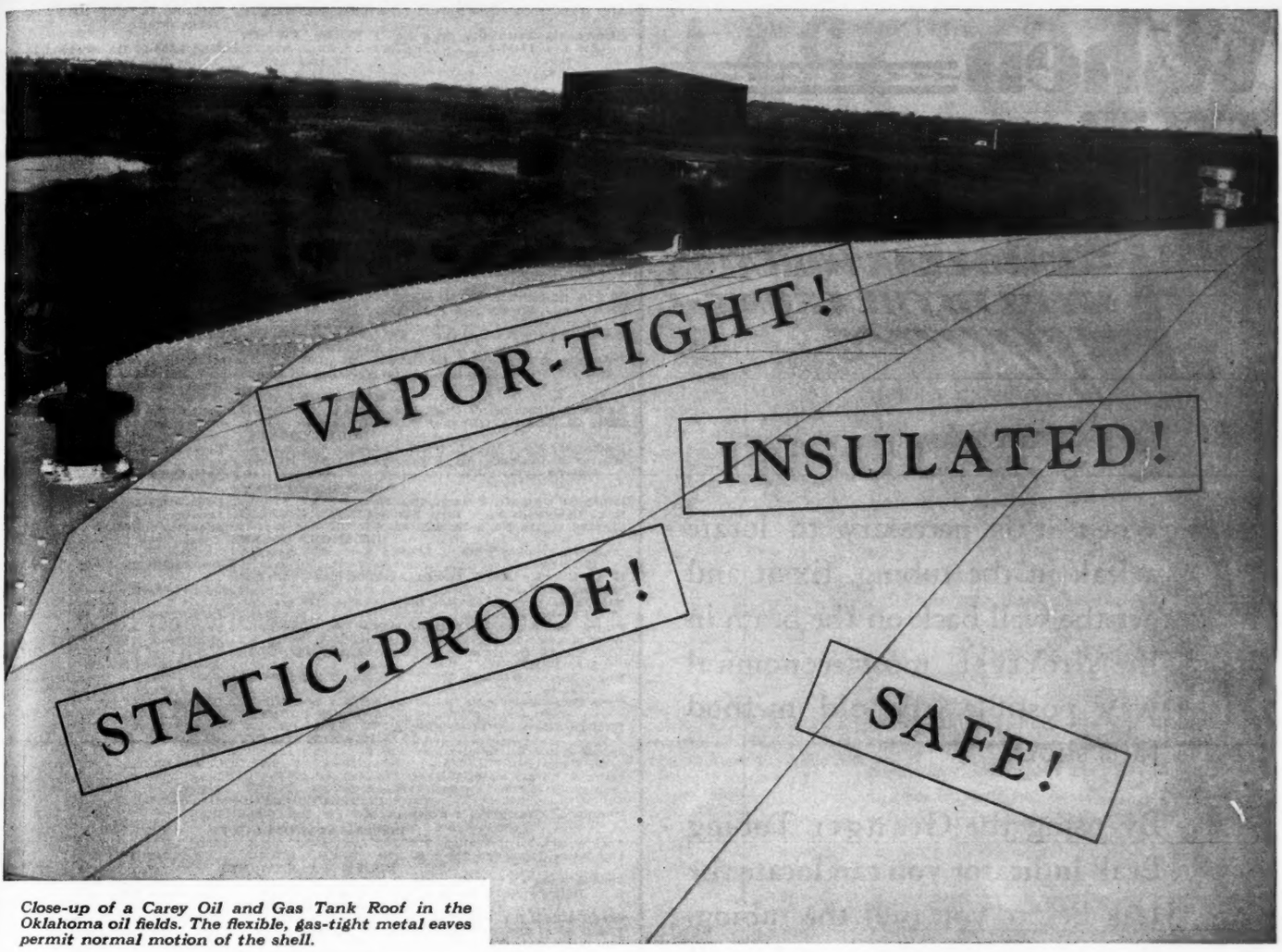
Wright et al's No. 1 Ott, SE SW Sec. 15-5-11 ..... Shut down 1,645 ft.

Canady et al's No. 1 Kanard, NW SW Sec. 29-9-12 ..... 1,000,000 ft. gas 2,284 ft.; shut down 4,500 ft.

Irwin et al's No. 1 Jones, SE NW Sec. 30-5-10 ..... Drlg. 4,270 ft.

KAY COUNTY

Boucher Oil Co.'s No. 1 Jefferson, NE SW Sec. 32-26-1w ..... Rig.



Close-up of a Carey Oil and Gas Tank Roof in the Oklahoma oil fields. The flexible, gas-tight metal eaves permit normal motion of the shell.

RIGID, except at the flexible, double vapor-sealed eaves. Three tank roof layers of hot asphalt, three layers of tough asbestos. Flexible, gas-tight insulation, under heavy-gauge, highly reflecting steel plates. Static-proof. Economical. The industry has put its hearty O. K. on the Carey Oil and Gas Tank Roof.

Philip Carey Products

THE PHILIP CAREY COMPANY, *Lockland*, CINCINNATI, OHIO

WESTERN DIVISION OF OIL INDUSTRIES DEPARTMENT

417 Magnolia Building, Dallas, Texas

733 Mayo Building
Tulsa, Oklahoma

107 Buffalo Street
Houston, Texas

Ask Us About These Other Carey Products . . .

Carey Asbestos Pipe Line Felt—Safeguards oil and gas lines against corrosion—insures efficient pipe line operation at minimum cost.

Carey Improved Pipe Line Coating—Cold application to exposed and underground gas and oil lines.

Carey Pipe Line Enamel—For hot application to gas and oil lines.

Carey Heat Insulations—For boilers, stills, steampipes, condensers, etc. Carey Hi-Temp No. 12; Carey Asbestos; Carey 85% Magnesia.

Carey Corrugated Asbestos Roofing and Siding—Reduces fire hazard to a minimum. Use it for meter houses, distillation sheds, refineries and similar buildings.

Carey Asbestos Built-up Roofing—Used where fire hazard and acid fumes are present.

Carey Feltex Built-up Roofing—For vast roof areas—where contraction and expansion are present, and where there is excessive vibration. Also specified for use in combination with Carey Asbestos Built-up Roofing.

Carey Prepared Roofings—Roll roofing for temporary construction such as temporary field buildings, etc.

When Efficiency Counts!

THE GRANGER TUBING LEAK INDICATOR STEPS TO THE FRONT--

When it is necessary to locate a leak in the tubing, fix it and get the well back on the beam in the shortest, most economical way possible, the old method falls short.

By using the Granger Tubing Leak Indicator you can locate the leak before you pull the tubing. With this method you only pull to the leak, make the necessary repairs and back in with the tubing. Barrels of production and many hours of labor saved.

Let us send you complete details on this tool..... Your request is all that is required to bring them.

GRANGER INDICATOR CO.

Main Office:

137 N. GREENLEAF, WHITTIER, CALIF.

Mid-Continent Branch

320 East 11th St., Tulsa, Oklahoma

R. L. Melton, Mgr.

Mid-Continent Distributor

PELICAN WELL TOOL AND SUPPLY CO.

with stores at—

El Dorado, Arkansas — Monroe, Louisiana

Shreveport, Louisiana — Lake Charles, Louisiana

Zwolle, Louisiana

Alco Royalty Co.'s No. 1 Wolf, SE SW SE Sec. 34-26-2w..5,000,000 ft. gas, 4,390-4,420 ft.; shut down.

Blankinship Petroleum Co.'s No. 1 Hansen, SW NW SW Sec. 17-27-2 .....Sand 3,590-97 ft.; swabbed 34 bbls after 40-qt. shot; pumped 10 bbls. in 7 hrs.

KINGFISHER COUNTY

Prairie and Slick's No. 1 Wright, C NW SW Sec. 23-15-5w .....Drlg. 2,740 ft.

Galt Brown's No. 1 Wolf, NW SE Sec. 6-16-7w .....Cleaning out 6,015 ft.

KIOWA COUNTY

Riley et al's No. 1 Grebb, SW NE Sec. 6-7-16w .....Drlg. 800 ft.

LEFLORE COUNTY

Red Bank Oil Co.'s No. 1 fee, SE SW NW Sec. 23-9-24 ..Drlg. 6,130 ft.

LATTIMER COUNTY

Limestone Oil & Gas Co.'s No. 1 Murray, NE cor. Sec. 25-5-18 .....Shut down 1,450 ft.

LINCOLN COUNTY

J. J. Deaner et al's No. 1 Knox, NE NW Sec. 28-17-2 ....Drlg. 4,813 ft.

Atlantic Oil Prod. Co.'s No. 1 Parker, SE NW Sec. 5-14-6 .....Drlg. 3,295 ft.

Magnolia Pet. Co.'s No. 1 Winship, NE SW Sec. 2-13-4 ..Drlg 4,875 ft.

LOGAN COUNTY

Slick & Ramsey's No. 1 Jones, SE NW Sec. 24-17-2w ....Drlg. 3,085 ft.

Prairie and Slick's No. 1 Morgan, NW NE Sec. 33-16-1w .....Fishing 5,351 ft.

Eason Oil Co.'s No. 1 Young, C SW NE SW Sec. 34-17-4w.Drlg. 2,550 ft.

McINTOSH COUNTY

Patterson et al's No. 1 Smith, SW cor. NW SE Sec. 32-9-16 .....Shot 240 qts. 5,446-5,559 ft. shot went off up hole; fishing

MUSKOGEE COUNTY

Becker & Hutchinson's No. 1 May, SE NE Sec. 16-12-19..Shut down 520 ft.

Sioux Oil Co.'s No. 1 Unknown, NW SE Sec. 21-11-19 ....Shut down 1,011 ft.

NOBLE COUNTY

Barnsdall's No. 1 Miksch, NW SW, Sec. 12-21-1 .....Location.

Weaver & Craigin's No. 1 Frederick, C SW NE Sec. 4-24-1w .....Shut down 2,425 ft.

OKFUSKEE COUNTY

Henry Oil Co.'s No. 1 Harjo, Sec. 36-12-9 .....Drlg. 3,890 ft.

E. L. Robinson's No. 1 Rice, NW Sec. 2-10-9 .....Location.

Shepard et al's No. 1 Neveas, SE NW SW Sec. 3-12-10..Shut down 3,661 ft.

OKLAHOMA COUNTY

Cromwell-Franklin's No. 1 Lincoln Park, SW cor. Sec. 12-12-3w .....Drlg. 4,310 ft.

L. C. Hivick's No. 1 Sunset Addition, NW SW NW Sec. 17-11-3w .....Drlg. 5,395 ft.

Mid-Kansas Oil & Gas Co.'s No. 1 Messer, SW cor. Sec. 32-14-3w .....Drlg. 6,565 ft.

Prairie and Slick's No. 1 Dill, SE NW Sec. 17-13-3w ....Shut down 6,821 ft.

Warr et al's No. 1 Castle, SW NW Sec. 20-11-3w .....Shut down 6,440 ft.

J. F. Cuniff, trustee's No. 1 Church Land, NE SW SE Sec. 17-12-4w .....Shut down 6,700 ft.

Magnolia and Ramsey's No. 1 Johnson, C NE SW Sec. 35-13-3w .....Drlg 7,198 ft.

Ryan Consolidated's No. 1 Lawton, NE NW Sec. 2-11-2w..Drlg. 6,903 ft.

OSAGE COUNTY

Western American Oil Co.'s No. 1, NW SE Sec. 28-23-6 ..Drlg. 3,032 ft.

PAWNEE COUNTY

Sperry et al's No. 1Mulirap, SE SW, Sec. 2-22-5 .....Rig.

L. E. Wentz' No. 1 G. Lilly, SE SW NE Sec. 26-22-3 ....Drlg. 1,960 ft.

Flynn & Morgan's No. 1 Jones, SW NE Sec. 22-20-5 ....Drlg. 2,250 ft.

Cochran et al's No. 1 Green, NE cor. SW Sec. 15-23-5 ..Rig.

PITTSBURG COUNTY

Morgan & Flynn's No. 1 Freeman, NW cor. Sec. 1-20-5..Rig.

POTTAWATOMIE COUNTY

Apex et al's No. 1 Walker, NW SE, Sec. 18-7-13 .....Drlg. 50 ft.

The Texas Company's No. 1 Knight, SW SE Sec. 3-8-3 ..Drlg. 3,340 ft.

ROGER MILLS COUNTY

Buey & Stone's No. 1 Williams, C SW Sec. 23-12-24w ....Shut down 2,245 ft.

L. C. Hivick's No. 1 Davis, C NW NE Sec. 4-11-26w ....Shut down 2,905 ft.

SEMINOLE COUNTY

Pure Oil Co.'s No. 1 Shaffer Ashby, SE NE Sec. 22-7-5 ..Wilcox 4,302-05 ft.; water; S.D.

T. Adkins et al's No. 1 McGilbray, SE NE Sec. 4-8-8 ....Abd., 4,355-61 ft.; water.

Sunray Oil Co.'s No. 1 Sunday, NW SE Sec. 35-5-5 .....Location.

WASHITA COUNTY

Kauffman et al's No. 1 Nelson, NE cor. Sec. 1-8-14w ....Shut down 1,235 ft.

Petroleum Holdings, Inc.'s No. 1 Musie, NW cor. Sec. 10-9-20w .....Shut down 280 ft.

WOODS COUNTY

Gypsy-Prairie et al's No. 1 Thompson, SE cor. SW Sec. 10-25-15w .....Shut down 6,104 ft.

Sinclair Oil & Gas Co.'s No. 1 Showwalter, C SW SW Sec. 33-27-16w .....Wilcox 7,160-76 ft.; testing

WOODWARD COUNTY

Farrond et al's No. 1 Unknown, SE cor. SW SE Sec. 2-22-17w .....Shut down 1,387 ft.

Prairie Oil & Gas et al's No. 1 Wilbur, NE cor. NW Sec. 22-23-17w .....Shut down 7,445 ft.

Burgoyne Brothers' No. 1 Merkins, SW cor. SE NE Sec. 15-21-19w .....Shut down 1,910 ft.

OKLAHOMA PANHANDLE

CIMARRON COUNTY

Magnolia's No. 1 School Land, C SW NE Sec. 27-5-5 ....Drlg. 3,900 ft.

TEXAS COUNTY

Argus Prod. Co.'s No. 1 Fee, C SW, Sec. 36-5-14 .....Rig.

Argus Prod. Co.'s No. 1 Fischer, C NW Sec. 29-6-14 .....Location.

Argus Prod. Co.'s No. 1 Parker, C NW NW Sec. 18-6-15 .....Rig on ground.

Three Way Oil Co.'s No. 1 Crane, SW NW Sec. 11-1-1S .....Drlg. 4,280 ft.

Palo Alto Oil Co.'s No. 1 Graves, NE SW SW Sec. 23-2-18e .....Spudded; shut down.

SOUTHERN OKLAHOMA

ATOKA COUNTY

Bryan-Croxton's No. 1 Mason, NW SE NW Sec. 4-1s-14..Shut down 1,850 ft.

Brookshire's No. 1 Guinn, NW cor. Sec. 18-3s-10 .....Shut down 100 ft.

BRYAN COUNTY

Bryan County Oil's No. 1 Childs, NW SE SW Sec. 8-7-10..Rig.

Bush et al's No. 1 Commerce Trust, NE cor. Sec. 35-6s-9 .....Shut down 525 ft.

Johnson et al's No. 1 Ussery, SE SW SE Sec. 14-16s-7e..Shut down 485 ft.

Marshall's No. 2 fee, C SW SE NW Sec. 26-5s-7 .....Shut down; 6-in. csg. 365 ft

CARTER COUNTY

Campen-Lasater Co.'s No. 1 Anderson, NE cor. SE NE SE Sec. 32-4s-2 .....Shut down 2,590 ft.

CHOCTAW COUNTY

Choctaw Petroleum Co.'s No. 1 Wilson, SW cor. SW Sec. 15-6s-19e .....Shut down 1,345 ft.

COTTON COUNTY

H. J. Dillard's No. 1 McMillan, SE NW Sec. 2-4s-13w ....Drlg. 1,870 ft.

LOVE COUNTY

Hobbs et al's No. 1 Roberts, NE cor. SW Sec. 20-6s-3w ..Shut down 3,130 ft.

Gilcrease Oil's No. 1 Burkhart, NE NW Sec. 13-6s-1 ....Rig.

MARSHALL COUNTY

Pace et al's No. 1 Hicks, SW NW Sec. 8-6s-7 .....Shut down 815 ft.

McCrory et al's No. 1 Adams, NE SW SE Sec. 31-7s-6 ...Rig.

Akers et al's No. 1 Spicer, SW SE SE Sec. 33-5s-7e .....Shut down 370 ft.

McCURTAIN COUNTY

Milton et al's No. 1 Vase, SW NW Sec. 26-6s-21 .....Shut down 2,287 ft.

STEPHENS COUNTY

Obermyer et al's No. 1 Skelton, NE SW SW, Sec. 32-15-7w .....Rig.

R. Southard's No. 1 McKinney, NE cor. Sec. 25-1-8n ....Shut down 1,060 ft.

Wirt Franklin Petroleum Corp.'s No. 1 McPhail, NW SE Sec. 1-2s-7w .....T. D. 4,529 ft.; shot 45 qts. at 4,133-52 ft.; abandoned.

WILDCAT OPERATIONS IN KANSAS

(Continued from Page 52)

ELK COUNTY

Croft & Frazier's No. 1 Keys, SE NE Sec. 26-31-10 ..... Drlg. 735 ft.

ELLSWORTH COUNTY

Aladdin and Carter Oil Co.'s No. 1 Barecky, C NW, Sec. 3-16-10w ..... Rig.
Slick et al's No. 1 Unknown, NW cor. Sec. 25-17-10w .... Drlg. 2,260 ft.

FORD COUNTY

Swain et al's No. 1 Kenthorne, C NW Sec. 21-25-24w .... Shut down 3,575 ft.

GOVE COUNTY

Johnson and Atlantic's No. 1 Wright, SE NE Sec. 11-12-27w ..... Rig.
Valerius & Baucher Oil Co.'s No. 1 Todd, NW cor. Sec. 24-13-27w ..... Drlg. 3,320 ft.

GRAHAM COUNTY

Gulf Coast Oil Co.'s No. 1 Johnson, C S half Sec. 27-8-25w. Shut down 4,370 ft.
Naylor et al's No. 1 St. John, NW SE SE Sec. 27-8-25w.. Drlg. 5,200 ft.

GRANT COUNTY

McKenna et al's No. 1 Sullivan, NE cor. Sec. 12-29-38w.. Shut down 50 ft.

GREENWOOD COUNTY

Staats et al's No. 1 Swan, NE NW Sec. 3-25-12 ..... Rig.
Harwood Oil Co.'s No. 1 Log, SW NE Sec. 20-25-10 ..... Shut down 1,100 ft.
Mallory's No. 1 Denchfield, SE NW Sec. 12-27-9 ..... Shut down 1,810 ft.
Bundy, Smith & O'Neil's No. 1 Ford, NE NW Sec. 28-25-13 ..... Shut down 50 ft.
F. Konkay et al's No. 1 Rock, NW NE NE Sec. 7-27-12.. Shut down 1,836 ft.

HARPER COUNTY

Beeler et al's No. 1 Bear, C NE Sec. 21-31-6w ..... Shut down 1,830 ft.

KINGMAN COUNTY

Skelly Oil's No. 1 Miles, NE cor. Sec. 30-27-10w..... Location.
Slick, Pryor & Lockhart's No. 1 Wetherall, NE SW Sec. 36-29-6w ..... Drlg. 1,625 ft.

KIOWA COUNTY

Phillips-Prairie's No. 1 Bean, NE SE Sec. 10-30-17w ..... Drlg. 3,538 ft.
McKenna et al's No. 1 Ralson, C NE Sec. 14-28-20w ..... Rig.

LYONS COUNTY

Griffith et al's No. 1 King, NW cor. Sec. 8-19-10 ..... Shut down 910 ft.

MARION COUNTY

Magnolia Pet. Co.'s No. 1 Davis, SE NW Sec. 18-21-2 .... Drlg. 2,250 ft.
Dixie and Arkansas Fuel's No. 1 Hacker, NW NE Sec. 6-17-1 ..... Drlg. 2,540 ft.
Marshall et al's No. 1 Higgins, NE cor. Sec. 33-19-5 .... Rig.

MARSHALL COUNTY

Swicker & Sincox's No. 1 Remple, C N half NW Sec. 22-4-9 ..... Shut down 1,245 ft.
Brazier et al's No. 1 Runkel, SE NW Sec. 13-2-6 ..... Shut down 50 ft.

McPHERSON COUNTY

Aladdin Pet. Co.'s No. 1 Larson, C NW Sec. 22-18-4w .... Rig on ground.
Simmons & Canary's No. 1 Bishop, NW SW Sec. 15-18-1w ..... Shut down 3,341-46 ft., water.
Harry Skelly et al's No. 1 Neufeldt, SE NE Sec. 19-21-3w ..... Rig.

MIAMI COUNTY

Clark's No. 1 Vaughn, SE SW Sec. 28-17-22w ..... T.D. 1,630 ft.; abandoned.

MORTON COUNTY

Argus Prod. Co.'s No. 2 Drubilbis, C NW Sec. 9-34-39w .. Comp. 2,610-2,760 ft., 4,000,000 ft. gas.
Argus Prod. Co.'s No. 1 Morgan, C NW Sec. 8-33-39w .... Rig on ground.
Argus Prod. Co.'s No. 1 Tillet, C SW Sec. 21-34-39w ..... Drlg. 2,680 ft.
Argus Prod. Co.'s No. 1 Sullivan, C NW Sec. 29-34-39w... Rigging up standard tools 2,536 ft.
Argus Prod. Co.'s No. 1 Garner, C SE Sec. 18-33-39w .... Comp., 2,467-2,713 ft., 2,500,000 ft. gas.
Argus Prod. Co.'s No. 1 Watson, C NE Sec. 27-34-40w ... Comp., 2,482-2,640 ft.; 2,000,000 ft. gas.
Hydraulic Oil Co.'s No. 1 State Land, NW SE Sec. 22-24-43w ..... Drlg. 2,710 ft.; gas at 1,200-10 ft. and at 1,350 ft.

MORRIS COUNTY

Pratt et al's No. 1 Whiting, NW SW SW, Sec 34-16-6.... Location.
Henderson et al's No. 1 Selsman, SW SE Sec. 24-16-9 ... Rig.
Urschell et al's No. 1 Scott, NE NW Sec. 6-16-6 ..... Shut down 2,420 ft.

OSAGE COUNTY

Riggs & Smith's No. 1 Wood, SE NW Sec. 21-14-15 ..... Drlg. 410 ft.

PAWNEE COUNTY

Skelly Oil Co.'s No. 1 Milhouse, C SE Sec. 34-23-71w ..... Drlg. 4,704 ft.

PRATT COUNTY

Wilcox O. & G. Co.'s No. 1 Bappin, SW NW Sec. 7-26-15w ..... Drlg. 4,240 ft.

RENO COUNTY

Braden et al's No. 1 Thersen, SE NE. Sec. 6-22-4w ..... Rig.
Alco Royalty's No. 1 Kinney, SE cor. Sec. 16-22-7w ..... Rig.
Shell Pet. Corp.'s No. 1 Popp, NW cor. Sec. 11-25-5w .... Plugging back bad hole, 2,092 ft.
E. L. Study and H. L. Turner's No. 1 Haury, NE NW Sec. 1-23-4w ..... Drlg. 2,945 ft.
Phillips Pet. Co. and Tom Palmer's No. 1 Harsch, NE SE Sec. 14-26-5w ..... Drlg. 3,654 ft.
United Pet. Co.'s No. 1 Houston, NW cor. Sec. 4-22-10w.. Drlg. 2,795 ft.
C. A. Cheney and M. M. Valerius' No. 1 Stevens, C NE SE NE Sec. 6-26-7w ..... Drlg. 3,873 ft.

RICE COUNTY

United Pet. Co.'s No. 1 Willman, NE cor. Sec. 29-21-9w .. Spudding.
Gypsy Oil Co.'s No. 1 Koch, SE NE NW Sec. 35-20-9w .. Drlg. 2,795 ft.
Hershey Golden & Skelly's No. 1 Brandenstein, Sec. 10-19-10w ..... Rig on ground.
McPherson and Shell's No. 1 Jennings, NE SW NW Sec. 29-18-6w ..... Drlg. 3,505 ft.
Miller & Brown's No. 1 Schartz, Sec. 14-20-10w ..... Drlg. 3,375 ft.
Hoffner, Lee & Shell's No. 1 Slad Farm Corp., C SW Sec. 33-19-6w ..... Drlg. 3,270 ft.
Tatlock et al's No. 1 Ploog, C SW SE Sec. 33-18-9w ..... Silicious lime 3,252-53 ft.; flowing 30 bbls. an hr. when shut in.

ROOKS COUNTY

Streeter-Stearns' No. 1 Conger, SE NW NE Sec. 16-10-16w ..... Shut down 250 ft.

RUSH COUNTY

Prairie et al's No. 1 Lecker, NW SW SW Sec. 5-16-18w .. Drlg. 2,015 ft.
Syndicate Oil Co.'s No. 1 Lannen, C SW Sec. 11-18-16w .. Location.
McPherson O. & G. Co.'s No. 1 Brack, C NW Sec. 24-17-16w ..... Drlg. 3,605 ft.
Syndicate Oil Co.'s No. 1 Mohr, C SW Sec. 2-18-16w ..... Drlg. 3,576 ft.
Danciger Oil & Refining Co.'s No. 1 Nave, NW cor. Sec. 26-17-17w ..... Total depth 3,606 ft.; shut down.

RUSSELL COUNTY

Streeter & Stearns' No. 1 Mitchell, SE cor. Sec. 6-15-14w.. Drlg. 3,170 ft.
Empire O. & R. Co.'s No. 1 Herbel, NW NE SW Sec. 26-14-14w ..... T.D. 3,323 ft.; abandoned.
Slick et al's No. 1 Berrick, SE SW Sec. 23-15-13w ..... Show oil, gas and water 3,292-3,322 ft.; shut down; P. B. to 3,307 ft.; pump 9 bbls.; comp.
Austin Drlg. Co.'s No. 1 Rochfellow, SE cor. Sec. 6-13-12w ..... Shut down 1,884 ft.
Gilbreath et al's No. 1 Bratton, C NE Sec. 33-11-13w .... Shut down 1,010 ft.

SEDGWICK COUNTY

Newman et al's No. 1 Bawly, SE NW NE Sec. 2-27-2 ... Drlg. 2,971 ft.
Tavender et al's No. 1 McLean, SE SW SE Sec. 23-26-1w ..... Shut down 975 ft.

SALINE COUNTY

Twin Mounds Oil Co.'s No. 1 Weis, C W half NE NW Sec. 20-13-4w ..... Shut down 2,942 ft.

STAFFORD COUNTY

Boucher Oil's No. 1 Christenson, NW cor. Sec. 22-22-11w.. Drlg. 3,410 ft.
Boucher Oil's No. 1 Groves, NE cor. Sec. 9-22-11w ..... Drlg. 2,930 ft.
Midwest's No. 36 Richardson, SE cor. Sec. 36-22-12w .... Drlg. 3,112 ft.

STEVENS COUNTY

Argus Prod. Co.'s No. 1 Davis, C SW, Sec. 31-32-38w.... Rig.

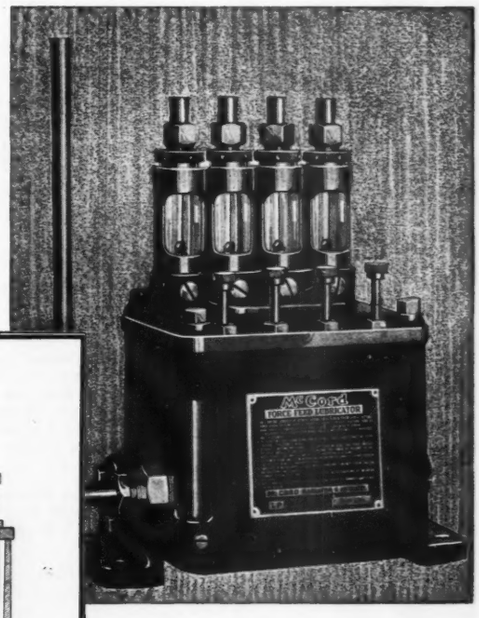
McCORD

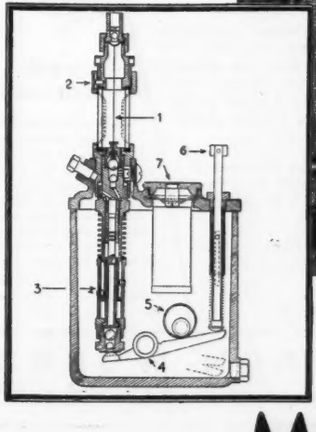
A BETTER LUBRICATOR

Quickly Filled and Effectively Cleaned—With Large Filler Opening and Strainer

The Filler Opening is provided with a deep, fine mesh strainer—having a capacity of 10 cubic inches, which is surrounded by 24 square inches of strainer screen. This large strainer area accounts for the quick filling, effective cleaning feature of the McCord "LF". A spring lid of novel design is another important part of the Filler Opening—it is securely attached to the lubricator which eliminates any possibility of loss, yet it can be swung absolutely clear of the opening for filling. The Filler Opening, together with Strainer Screen and Spring Lid, can be seen in the drawing below (No. 7). Note the great strainer area described above.

The Filler Opening, being on the end of the lubricator, is completely out of the way of feed lines and other possible obstructions. The spring lid prevents any leakage of oil through the Filler Opening and at the same time prevents any foreign matter entering.





McCORD
RADIATOR & MFG. CO., DETROIT, MICH.
LUBRICATOR DIVISION

Continuous Tooth Herringbone

GEARS

Add power, efficiency and operating economy to

OIL FIELD MACHINERY

Wherever oil flows, it takes power to help it flow into the channels of industry—power transmitted by the gears of some kind of machinery. In the field, along pipe lines, in refineries—even the motor tank trucks—*gears* do the work of power transmission.

Machinery of the oil industry, as in any industry, will run smoother, quieter, with more power at less upkeep cost, equipped with OTTUMWA Sykes Generated Continuous Tooth Herringbone Gears.

They utilize the whole width of the Gear face for bearing surface

Affording continuous uninterrupted and complete transmission of every ounce of power. The continuous tooth herringbone gear has greater bearing surface for a given gear surface than any other type of gear, and also has the extra inherent strength that this shape of gear tooth provides.

Any Machine Superintendent, Plant Manager or Purchasing Agent will get valuable help and information from the OTTUMWA GEAR CATALOG.

OTTUMWA can furnish Spur or Herringbone Gears in any size up to 125-in. diameter, 24-in. face.

SPEED REDUCERS

The wholly enclosed speed reducer has superseded most other types of power transmission machinery. In Ottumwa Speed Reducers, a compactness is attained, along with greater load capacity because of using Sykes-generated continuous tooth herringbone gears and roller bearings.

Mail This Coupon

OTTUMWA IRON WORKS

ESTABLISHED 1867 OTTUMWA, IOWA

Gentlemen: Please send us, without obligation:

☐ Information on how Ottumwa Continuous Tooth Herringbone Gears can add to the efficiency of our _____ Machinery.
(State kind)
(Send blueprint of layout with loads and speeds indicated.)

☐ OTTUMWA GEAR CATALOG, Free.

Name _____

Address _____

City _____ State _____

Argus Prod. Co.'s No. 1 Headrick, C NW Sec. 9-35-37w ..Drlg. 2,150 ft.
Agate Oil Co.'s No. 1 Gregory, NW NE Sec. 19-33-38w ..Rigging up standard tools 2,470 ft.
Argus Prod. Co.'s No. 1 Hershey, C NW Sec. 26-34-37w ..Drlg. 2,235 ft.
Argus Pord. Co.'s No .1 Ehrhard, C NW Sec. 11-35-39w ..Drlg. 2,514 ft.
Argus Prod. Co.'s No. 1 Wiley, C NE Sec. 4-35-37w .....Drlg. 2,365 ft.
Argus Prod. Co.'s No. 1 Ridpath, C SE Sec. 27-34-37w ...Drlg. 2,530 ft.
Argus Prod. Co.'s No. 1 Gibbons, C SE Sec. 29-34-37w ....Drlg. 2,535 ft.
Argus Prod. Co.'s No. 1 Knier, C SW Sec. 27-34-37w ....R.U.S.T.
Argus Prod. Co.'s No. 1 Harrison, C SW Sec. 30-34-37w ..Drlg. 2,412 ft.
Argus Prod. Co.'s No. 1 Irwin, C SE Sec. 10-35-37w .....Drlg. 2,506 ft.
Argus Prod. Co.'s No. 1 Libon, C NE Sec. 2-34-39w .....Drlg. 2,632 ft.
Barrington et al's No. 1 Creamer, C NW Sec. 2-35-39w ..Comp. 2,625-2,710 ft.; 7,900,000 ft. gas.
Braden et al's No. 1 Theisen, SE NE Sec. 6-22-4w .....Rig no ground.
Freedell Const Co.'s No. 1 Presinger, C SE Sec. 22-31-38w .....Comp. 2,455-2,650 ft.; 6,000,000 ft. gas.
Mangle et al's No. 1 Youngren, C SE NW Sec. 24-32-39w .....Shut down 2,523 ft.
McNabb and Mid-Kansas' No. 1 Rhinehart, C NE Sec. 23-32-39w .....Rig.
McNabb et al's No. 1 Porter, Sec. 4-31-37w .....Drlg. 2,442 ft.
W. Sidwell et al's No. 1 Kelly, SW cor. NE Sec. 16-34-38w .....Shut down 1,600 ft.

SUMNER COUNTY

Magnolia Pet. Co.'s No. 1 Shriver, NW SW Sec. 9-23-2 ..Drlg. 2,005 ft.
Disney et al's No. 1 Fay, C E half SE Sec. 14-34-1w ....Rig.
Davidson et al's No. 1 Strickland, SW cor. SE Sec. 12-35-1w .....Rig.

WASHINGTON COUNTY

Sincox et al's No. 1 Penwell, NW SE NE Sec. 16-3-3 ....Shut down 510 ft.

WILDCAT OPERATIONS IN NEBRASKA

FRANKLIN COUNTY

U. R. Drlg. Co.'s No. 1 Brunkle (twin well), C NW SW NE Sec. 2-3n-13w .....Rig.

CHASE COUNTY

Chase Pet. Co.'s No. 1 Ingold, C NE Sec. 24-6n-38w .....U. R. 5-in. csg.; T. D. 4,265 ft.

FURNAS COUNTY

Southwestern Pet. Corp. of Nebraska's No. 1 Montague, SE SW NW Sec. 28-1n-22w .....Shut down 1,750 ft.
Graham Bros.' No. 1 Edwards, NW SW Sec. 13-2n-22w ...Shut down 3,250 ft.

PHELPS COUNTY

Trees Oil's No. 1 Bergan, Sec. 22-6-19w .....Rig on ground.

RICHARDSON COUNTY

Norton et al's No. 1 Albin, NE cor. Sec. 26-1-14 .....Miss. lime 2,200 ft.; landing 8-in. casing.

ROCK COUNTY

North Central Dev. & Drlg. Co.'s No. 1 Leonard, SE cor. NE Sec. 14-32-18w .....Drlg. 900 ft.

WEBSTER COUNTY

Mid-Kansas Exploration Co.'s No. 1 Platt, C SE one-half Sec. 2-1n-11w .....Drlg. 2,125 ft.

NEW LOCATIONS IN TEXAS PANHANDLE AND NORTH AND WEST TEXAS FIELDS

TEXAS PANHANDLE

Carson County

Texas Interstate Pipe Line Co.'s No. 1 S. B. Burnett (Section 79), at the C of the SE of Section 79, Block 5, I.&G.N.

Gray County

Shamrock Oil & Gas Co.'s No. 5 W. S. Clayton-C, 1,199 feet south and 451 feet east of the NW cor. of the NE of Section 50, Block 25, H.&G.N. British American Oil and Shell Petroleum Corp.'s No. 1 A. Smith, 330 feet north and west of the SE cor. of the E half of the NW of Section 138, Block 3, I.&G.N. Same company's No. 2 A. Smith, 990 feet north and 330 feet west of the SE cor. of the E half of the NW of Section 138, Block 3, I.&G.N. Champlin Refining Co.'s No. 5 D. J. McLaughlin, 330 feet north and east of the SW cor. of the NE of Section 33, Block B-2, H.&G.N. Continental Oil Co.'s No. 1 M. K. Brown, 330 feet north and east of the SW cor. of the SW of Section 115, Block 3, I.&G.N. Danciger Oil & Refining Co.'s No. 1 D. J. McLaughlin, 330 feet north and west of the SE cor. of the NW of Section 33, Block B-2, H.&G.N. Shamrock Oil & Gas Co.'s No. 1 E. E. Reynolds, 330 feet south and west of the NE cor. of the SE of the SE of Section 84, Block 3, I.&G.N. Southern Petroleum Exploration Co.'s No. 2 Vaughan, 330 feet north and west of the SE cor. of the SW of Section 138, Block 3, I.&G.N.

Hutchinson County

Dixon Creek Oil Co.'s No. 1 Johnson Brothers-E, 330 feet south and east of the NW cor. of the east 60 acres of the north 100 acres of the west 200 acres of Section 1, Block X03, H.&O.B.

Moore County

Texas Interstate Pipe Line Co.'s No. 1 A. R. Sneed and others (Section 48), at the C of the NE of Section 48, Block 6T, T.&N.O.

Wheeler County

Murchison & Fain's No. 2 J. W. Grogan, at the C of the SW of the SE of Section 73, Block 23, H.&G.N.

NORTH CENTRAL AND WEST TEXAS

Archer County

Bridwell Oil Co.'s No. 2 F. C. Green, 3,950 feet south and 1,325 feet east of the NW cor. of the Joseph Levins Survey, A-259, being 150 feet south and 1,325 feet east of the NW cor. of their 47.5-acre lease. C. S. Cole's No. 1 P. Barry, 1,170 feet south and east of the NW cor. of Section 8, A. Nunley Survey, A-320. F. P. Cullum's No. 4-A Falls County School Land (Ellis), 250 feet north and 150 feet west of the SE cor. of Section 10, Falls County School Land, A-130. Golding & Cochran's No. 10 H. E. Brown, 600 feet north and 1,994 feet west of the SE cor. of the H. E. Brown 184.8-acre tract out of Section 6, B.B.B.&C., A-826. Golding & Cochran's No. 7 M. J. Kunkel, 450 feet south and east of the NW cor. of the M. J. Kunkel 205.5-acre tract and located in the S. G. Hardaway Sur., A-164.

R. L. Hayes' No. 1 E. Bearden, 150 feet north and 1,050 feet east of the SW cor. of the John Riley Survey No. 3, A-364. A. Minnich's No. 1 Charles Abercrombie, 600 feet south and 200 feet west of the NE cor. of Section 154, Club Ranch Subdivision. Pois & Schultz' No. 3 F. C. Green, 3,350 feet south and 1,200 feet east of the NW cor. of the Joseph Levins Survey, A-259, being 450 feet north and 1,200 feet east of the NW cor. of their 40-acre lease. Steel Drilling & King Royalty Co.'s No. 1 H. L. and J. F. Ward, 1,900 feet south and 931 feet west of the NE cor. of the R. R. Rainey Sur., A-354.

Brown County

T. C. Nystel and others' No. 2 J. W. Guyer, 150 feet north and 450 feet east of the SW cor. of the NW of the SW of Section 22, H.T.&B.

Coleman County

Bartlett & Dozier's No. 1 G. W. Jennings, 307 feet south and east of the NW cor. of Section 9, South Subdivision, M. Martinez Survey No. 751. H. Mace and others' No. 1 L. L. Baker, 1,053 feet south and 750 feet east of the NW cor. of the L. L. Baker 320-acre tract out of the M. A. Fisk Survey No. 630.

Cooke County

Danciger Oil & Refining Co.'s No. 1 H. Fleitman-B, 150 feet south and west of the NE cor. of the south 40 acres of the east 102 acres of the L. Mikel Survey, A-747. Deep Rock Oil Corp.'s No. 1 I. Felker, 150 feet south and west of the

NE cor. of the west 80 acres of the S. E. Clements Survey, A-273. Hoffer Oil Co.'s No. 1 J. J. Eberhart, 200 feet north and east of the SW cor. of the north 85 acres of Section 18, George Ivy Survey, A-516. Hoffer Oil Co.'s No. 1 F. J. Hess, 150 feet north and 200 feet west of the SE cor. of the F. J. Hess 125-acre tract out of the C. R. B. Anderson Survey, A-7.

Denton County

Deep Rock Oil Corp.'s No. 1 R. C. Freeman, 250 feet south and east of the NW cor. of the S. Yoacham Survey.

Eastland County

Mrs. F. V. Gordon's No. 1 S. R. Hunt, 900 feet north and 450 feet east of the most northerly SW cor. of the S. R. Hunt 97-acre tract out of the E. Finley Survey. Hoffman & Page's No. 8 O. E. Lyerla, 150 feet north and 1,338 feet east of the SW cor. of the O. E. Lyerla tract out of Section 27, Block 2, H.&T.C. J. M. Nunn and others' No. 1 J. R. Higgins, 2,170 feet south and 450 feet west of the NE cor. of Section 43, McLennan County Land, League 3 and 4.

Howard County

Merrick & Lamb's No. 15 H. R. Clay, 865 feet north and 1,968 feet west of the SE cor. of Section 126, Block 29, W.&N. W.R.R.

Jack County

P. Shabey's No. 1 J. L. Mask, at the C of the NE of Section 2,707, T.E.&L.

Montague County

Bridwell Oil Co.'s No. 1 E. J. Bouldin, 200 feet south and 1,000 feet west of the NE cor. of the E. J. Bouldin 155.6-acre tract out of the E. Votaw Survey, A-827. Lesh & McCall's No. 1 J. E. Lemons-B, 1,120 feet south and 1,780 feet east of the NW cor. of the M. Burnsides Survey, A-14.

Pecos County

Cardinal Oil Co.'s No. 3 J. H. Tippett (Tidal), 150 feet north and 743 feet east of the SW cor. of the NE of Section 40, Block 194, G.C.&S.F. C. L. Dittman's No. 1 H. J. Eaton (Section 35), 2,310 feet northeast of the southwest line and 2,310 feet southeast of the northwest line of Section 35, Block 3, H.&T.C. C. L. Dittman's No. 2 H. J. Eaton (Section 35), 990 feet northeast of the southwest line and 330 feet northwest of the southeast line of Section 35, Block 3, H.&T.C. C. L. Dittman's No. 1 H. J. Eaton (Section 37), 330 feet southwest of the northeast line and 330 feet northwest of the southeast line of Section 37, Block 3, H.&T.C. C. L. Dittman's No. 1 T. S. Jackson, 2,310 feet southwest of the northeast line and 330 feet southeast of the northwest line of Section 28, Block 3, H.&T.C.

Stephens County

Arrowhead Oil Co.'s No. 1 T. A. Flournoy, 1,070 feet north and 230 feet west of the SE cor. of Section 33, Block 6, T.&P. J. Urban and others' No. 1 G. Riddle, 320 feet south and 990 feet east of the NW cor. of the SE of Section 46, Block 6, T.&P.

Throckmorton County

L. B. Tannehill's No. 1 W. D. Howsley, 300 feet north and 600 feet west of the SE cor., Section 292, B.B.B.&C.

Tom Green County

Belding & Dutton's No. 1 J. R. Nosworthy, 2,640 feet north, 587 feet west of SE cor. of the John McNeese Survey.

Ward County

Atlantic Oil Producing Co.'s No. 1 Reynolds & Miller, 330 feet southwest of the northeast line and 330 feet southeast of the northwest line of Section 15, Block 32, H.&T.C. Texas Pacific Coal & Oil Co.'s No. 1 M. Barker, 330 feet southeast of the northwest line and 330 feet northeast of the southwest line of Section 27, Block B-29, School Land.

Wichita County

H. A. Beasley and others' No. 1 E. W. Hall and others, 150 feet south and east of the NW cor. of Section 216, Waggoner Colony Subdivision. M. Staniforth and others' No. 1 Kemp & Kempner, 150 feet south and east of the NW cor. of Block 60, Kemp Wichita Valley Land. J. H. Turner's No. 1 J. M. Smythe, 250 feet south and 150 feet east of the NW cor. of Lot 3, Section 2, E.T.R.R., A-762.

Young County

G. A. Alexander's No. 1 S. R. Jeffery, 150 feet north and east of the SW cor. of the SW of Section 57, T.E.&L. Arkansas Fuel Oil Co.'s No. 1 S. R. Jeffery, 931 feet north and 1,865 feet west of the SE cor. of Section 49, T.E.&L. Butler and others' No. 1 W. D. Bellamy, 2,600 feet north and 950 feet east of the SW cor. of the W. Fishbraugh Survey, A-93.

Culbertson Brothers' No. 1 C. B. Ward, 400 feet north and 600 feet west of the SE cor. of Section 274, T.E.&L. P. K. Deats' No. 1 G. Greer and others, 450 feet south and 150 feet east of the NW corner of the NE of Section 76, T.E.&L. W. D. Gillette's No. 2 Belknap Coal Co., 150 feet south and west of the NE cor. of the W half of the SW of Section 10, T.E.&L. Maer & Hamilton's No. 1 C. J. Bullock, 150 feet north and west of the SE cor. of the SW of Section 333, T.E.&L. Maer & Hamilton's No. 1 S. R. Jeffery, 150 feet south and east of the NW cor. of the SE of Section 53, T.E.&L. McDonald & Campbell's No. 1 G. Van Hemert, 1,717 feet south and 150 feet west of the NE cor. of Section 352, T.E.&L. McMeans & Williams' No. 1 A. W. Kay and others, 150 feet south and east of the NW cor. of the W half of Section 633, T.E.&L. McMeans & Williams' No. 1 B. S. Salter, 150 feet north and east of the SW cor. of the NW of Section 609, T.E.&L. McMeans & Williams' No. 1 R. F. Sparks, 150 feet south and east of the NW cor. of the east 40 acres of the south 80 acres of the west 160 acres of Section 286, T. E.&L. Panhandle Refining Co.'s No. 5 B. H. Larimore and others, 750 feet south and 150 feet east of the NW cor. of the E half of the SW of Section 2,247, T. E.&L. Panhandle Refining Co. and others' No. 4 A. C. Watson, 1,300 feet north and 550 feet east of the SW cor. of the NE of Section 249, T.E.&L. Paramount Oil Royalty's No. 1 J. H. Choate, 450 feet north and 150 feet east of the SW cor. of Section 259, T.E.&L. William Shriver's No. 1 H. E. Neeley, 150 feet south and 450 feet west of the NE cor. of the north 40 acres of the SE of Section 176, T.E.&L. William Shriver's No. 1 G. P. Stewart, 150 feet south and 450 feet east of the NW cor. of the east 90 acres of the west 112 acres of the N half of Section 1,493, T.E.&L. W. R. Stafford's No. 1 E. F. Brown-B, 450 feet north and 150 feet west of the SE cor. of the west 35 acres of the south 70 acres of Section 290, T.E.&L. A. H. Stolz' No. 1 W. F. Hearne, 150 feet south and 2,250 feet west of the NE cor. of Section 355, T.E.&L. S. Swink's No. 1 Belknap Coal Co., 700 feet south and 2,400 feet west of the NE cor. of Section 22, T.E.&L. J. H. Watson and others' No. 1 A. C. Watson, 150 feet south and west of the NE cor. of the north 40 acres of the SE of Section 250, T.E.&L. J. H. Watson and others' No. 2 A. C. Watson, 150 feet south and 450 feet east of the NW cor. of the north 40 acres of the SE of Section 250, T.E.&L. R. J. Watson and others' No. 1 G. W. Terrell estate, 150 feet south and 750 feet west of the NE cor. of Section 249, T.E.&L. Williams & Baker's No. 1 W. Duckworth, 500 feet south and 150 feet west of the NE cor. of the north 80 acres of the W. Duckworth 258-acre tract out of Section 703, T.E.&L. Willis & Terrell's No. 1 I. Gathright, 1,050 feet south and 1,680 feet east of the NW cor. of Section 275, T.E.&L. Wootten & Reed's No. 2 J. L. Jordan, 150 feet north and 1,200 feet east of the SW cor. of Section 1,903, T.E.&L.

Corrections

Brown County—S. B. Owens and others' No. 1 J. A. Loyd, 750 feet north and 150 feet east of the SW cor. of the J. M. Higgins Survey No. 37, A-530.

Callahan County—Production Purchasing Co. and Campbell Oil Co.'s No. 2 M. Horn, 1,629 feet south and 1,682 feet west of the NE cor. of the SE of Section 93, B.B.B.&C.

Gray County—Danciger Oil & Refining Co.'s No. 3 M. S. Arnold, 330 feet south and west of the NE cor. of the SE of Section 149, Block 3, I.&G.N.

Stephens County—The Texas Company's No. 42 J. W. Parks-A, 660 feet south and 1,703 feet west of the NE cor. of Section 3,360, T.E.&L.

Young County—Elliott & Kliner's No. 1 I. M. Kirkland, 150 feet south and west of the NE cor. of the north 30 acres of the NW of Section 2,250, T.E.&L.

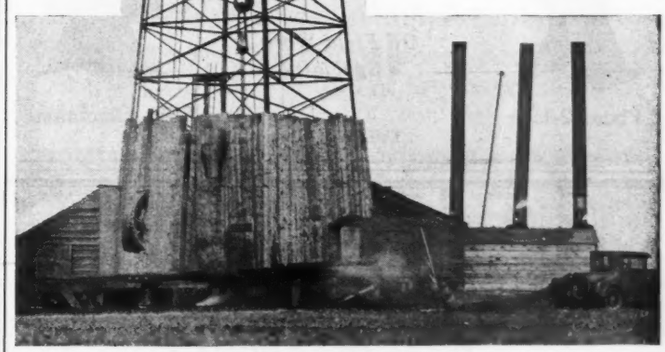
DO AWAY
with derrick grief!

PUT an end to fire hazard, wind hazard, excessive vibration, rotting, warping, twisting, breaking, crooked holes, high upkeep, untimely obsolescence. *Standardize* on WASHINGTON Structural Steel Derricks. Other rig builders have followed the lead of Washington in building standard seven-foot sections, but Washington Derricks have two other distinctive features: Super-rigidity in drilling; Double-spliced, super-strong joints.

WASHINGTON STRUCTURAL STEEL DERRICKS

They'll drill your wells and pull your casing

TWO dozen deep wells with a single Washington is not an unusual service for these rigs. They are as permanent as it is possible to make them. For the first few wells, the salvage value is just about 100%. After many years of service, the salvage value will be affected but deterioration is generally very low.



O'Brien Steel Construction Company, Inc.
Washington, Penna.
Western Representative:
RIG EQUIPMENT COMPANY, 1524 So. St. Louis St., Tulsa, Okla.

Gott
Water Cans & Coolers
Built to last... you will always be assured of a fresh supply of pure water when you have a GOTT Water Cooler. Order one now from your supply store.
GOTT Water Cans 1½ gal; 3 gal; 5 gal; and 10 gal.
GOTT Water Coolers 3 gal; 5 gal; 8 gal; 10 gal; and 20 gal.
Gotkool
H. P. GOTT MFG. CO. · Winfield, Kansas
KEEP PURE DRINKING WATER ALWAYS HANDY

Give Us a Chance

to prove to you that The OIL and GAS JOURNAL carries the most complete information on all phases of the Petroleum Industry.

Subscribe Now

The OIL and GAS JOURNAL
PRODUCING REFINING ENGINEERING MARKETING
Tulsa, Oklahoma

Ventilators

Southern Cornice Works

Oil Field Work a Specialty

Phone 2-1546 118-120 So. Cincinnati
TULSA, OKLA.

NATIONAL PETROLEUM ENGINEERING COMPANY
Engineers & Geologists
TULSA OKLAHOMA

APPRAISALS
REPORTS-COMMERCIAL & TAX

SURVEYS
ESTIMATES OF OIL RESERVES

AN EXPERIENCED OIL FIELD ORGANIZATION

FACTORS GOVERNING REGULATOR CHOICE

(Continued from Page 118)

and back pressure regulators, however, in order to choose a valve body of suitable strength.

From this fact it is found that the capacity of a direct operated regulator is not necessarily the full capacity of the valve body, but actually the ability of the diaphragm to move the valve plug far enough to pass the desired volume without excessive variation in the controlled pressure. For example, consider a 2-inch regulator with the proper set of springs and diaphragm size for producing the amount of valve travel required to pass the full pipe capacity at 50 pounds pressure with a variation in the set pressure of only 5 pounds. Now let us inspect a 6-inch regulator also for 50 pounds pressure—practically the same superstructure, springs and diaphragm size will be used; the main change being the larger valve body. In order, however, to get sufficient valve travel to pass the 6-inch pipe capacity we must move the 6-inch valve plug about three times as far as the 2-inch. It at once becomes apparent that this can be done only by compressing the springs this much more. This work can be accomplished only through a variation of approximately 15 pounds in the set pressure. This fact should not be taken too seriously, as it is seldom that a regulator is called upon to pass the full pipe capacity in actual service. In other words, if the percentage of change between the minimum and maximum volumes to be passed through the regulator is not great, the direct operated regulator is satisfactory up to medium large sizes.

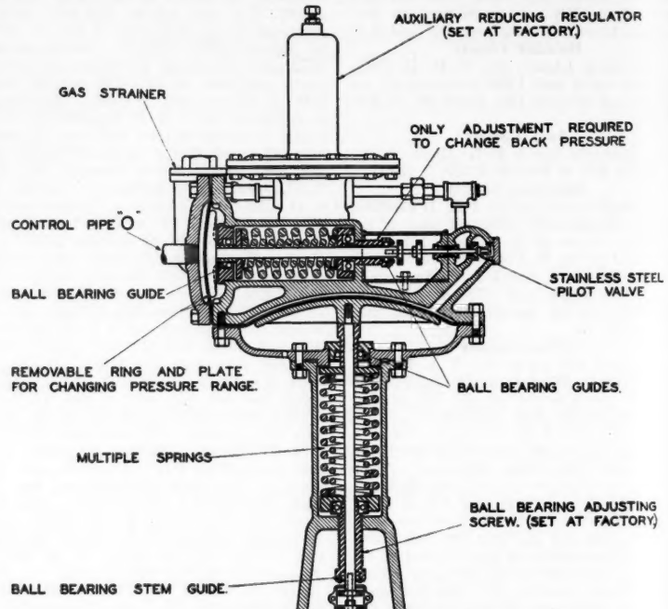

AUXILIARY REDUCING REGULATOR (SET AT FACTORY)
GAS STRAINER
ONLY ADJUSTMENT REQUIRED TO CHANGE BACK PRESSURE
CONTROL PIPE
BALL BEARING GUIDE
STAINLESS STEEL PILOT VALVE
REMOVABLE RING AND PLATE FOR CHANGING PRESSURE RANGE.
BALL BEARING GUIDES.
MULTIPLE SPRINGS
BALL BEARING ADJUSTING SCREW. (SET AT FACTORY)
BALL BEARING STEM GUIDE
STAINLESS STEEL

Figure 3—Pilot actuated back pressure regulator.

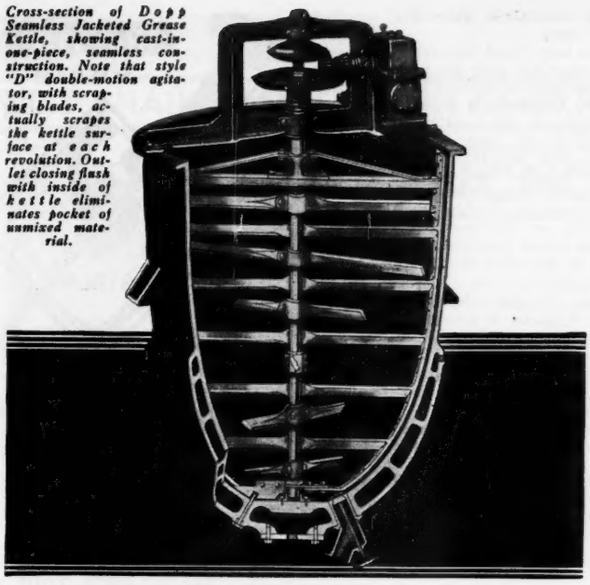
Pilot Operated Regulator

In order to draw comparisons, the pilot operated regulator will now be considered. This type, as you know, consists of an ordinary direct operated regulator actuated by air or gas, which is supplied by means of a small pilot valve. Figure 3 shows the construction of a pilot operated type. Of course, different manufacturers of equipment construct their regulators in various ways but the principle remains the same as Figure 3.

The fundamental difference to remember between the direct operated and the pilot operated is that in the former the amount of valve travel is in direct proportion to the amount of pressure change above or below that set on the springs, whereas a small sustained pressure above or below that set on a pilot actuated regulator is capable of producing full valve movement in even the largest sized valve bodies. Actual figures may clarify this statement. Consider a 2-inch reducing regulator of both types controlling a 75 pound pressure; in the direct operated type we find that in order to pass the maximum capacity the valve must travel three-eighths inch and this requires a pressure variation of 20 pounds below the set pressure. In contrast with this, to obtain the same amount of main valve travel, in a pilot actuated regulator, it is necessary for the pilot valve to move only .003 inch. This requires a pressure variation of but one-half pound below the set pressure.

Common practice utilizes air or gas of about 15 pounds maximum pressure to operate the main valve diaphragm of a pilot actuated regulator. This permits the use of lighter, more flexible and consequently longer lifed diaphragms than the direct acting regulator where the pressure is always exerting its full force directly on the main diaphragm. These lower pressures on the main valve diaphragm also permit lighter spring loads, with their attendant reductions in friction, in pilot operated regulators. The only place that the full controlled pressure is felt in the pilot actuated regulator is on the pilot diaphragm and the movement necessary for the pilot valve is so slight that the friction in the pilot valve is, comparatively, very small.

It is not our intention in this article to attempt to reduce all regulation to positive formulae. To definitely set down rules that will cover every case would be as erroneous as for a doctor to tell you that every time you have a headache you have the influenza. Our hope is that by setting down the findings of several years of successfully conquering difficult regulation problems that we may help others who have, luckily, been confronted with fewer. These results should not be accepted as infallible or inflexible; as in all scientific calculations many outside



Cross-section of Dopp Seamless Jacketed Grease Kettle, showing cast-in-one-piece, seamless construction. Note that style "D" double-motion agitator, with scraping blades, actually scrapes the kettle surface at each revolution. Outlet closing flush with inside of kettle eliminates pocket of unmixed material.

SPECIALIZED GREASE.... ..... MAKING EQUIPMENT

That makes an improved and uniform product while increasing production.

EACH day brings increasing evidence of the trend toward equipment modernization in the grease plant. A steadily growing number of progressive grease manufacturers are finding in Dopp equipment outstanding advantages which enable them to meet today's competition without sacrifice of profits.

Take pressure saponification, for example: one Dopp Pressure mixer per pair of open kettles gives almost any grease plant the increased capacity provided by adding several open top mixers and the investment is considerably smaller. The result is substantially increased output at lower manufacturing cost and a materially improved product besides.

Dopp open Kettles also permit grease manufacturing economies not possible with ordinary equipment. Dopp seamless jacketed construction reduces the possibility of steam leaks to a minimum, permitting more accurate moisture control. Alternate quick heating and cooling in the same kettle cuts down the time required per batch. More efficient mixing with the style "D" double-motion agitator enables more oil to be worked into the soap in less time. Spring steel scraping blades on the agitator sweep actually *scrape* the kettle surface clean at each revolution—no accumulated scale is left requiring the kettle to be shut down for periodic cleaning.

These operating economies, and others, are more fully described in Circular 63. We will be glad to send you a copy on request.

Experimental Department: Grease manufacturers who are interested in possibilities of improving their products, developing new specialties, etc., are invited to avail themselves of our facilities for experimental work at Buffalo. No obligation is involved. Write for details or appointment.

300-gallon Dopp style "D" Double Motion Pressure Mixer. A size frequently used for pressure saponification — one pressure mixer to each pair of open mixers. Can also be furnished with direct motor drive same as open kettle illustrated.

SOWERS MANUFACTURING CO.

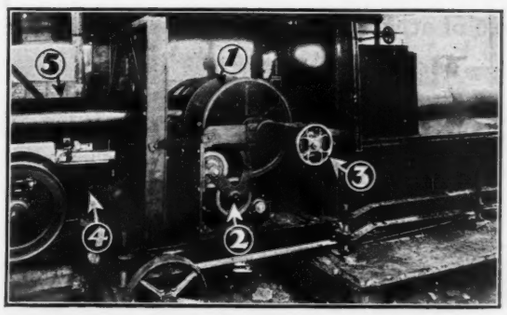
MANUFACTURERS OF DOPP EQUIPMENT FOR HEATING, COOLING AND MIXING

1302 Niagara St., Buffalo, N. Y.

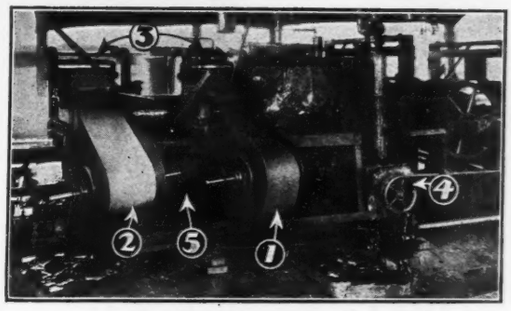
NEW YORK BOSTON TORONTO

Seamless **DOPP** *Leakless*

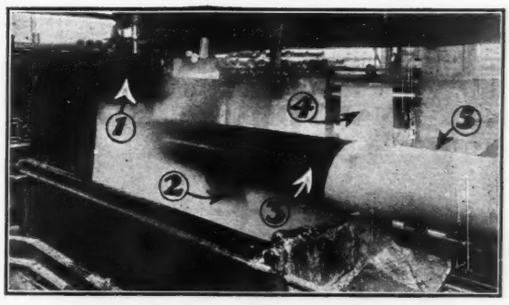
McEVERLAST *Protective Coatings Mechanically Applied*



1. Driving mechanism for turning and advancing pipe.
2. Changeable gear train for variable speeds.
3. Control for tightness of grip prevents slipping.
4. 5-H.P. gas engine.
5. Primed pipe entering machine.



1. Reel rack for Osnaburg wrap.
2. Reel rack for Kraft paper.
3. Tension rolls.
4. Asphalt pump.
5. Asphalt heating tank.



1. Asphalt fountain.
2. Osnaburg wrap going on pipe.
3. Asphalt oozing through open weave of wrapper.
4. Kraft paper going on pipe.
5. Finished pipe leaving machine.

Mechanical coating and wrapping insure uniformity and reduce application costs.

In line with its policy of selling a *complete pipe protection service,* McEverlast, Inc., has perfected pipe coating and wrapping machines which are offered to users of McEverlast products at a very nominal rental.

With them, any combination of McEverlast Coatings may be applied at low cost and with mechanical uniformity.

McEverlast protective coatings *plus* mechanical application *plus* McEverlast service are ready to assist you in solving your pipe line corrosion problems.

McEVERLAST, INC.

111 West Seventh Street, Los Angeles, California

35 E. Wacker Dr. CHICAGO, ILL.
1234 Athletic Club Bldg. DALLAS, TEXAS
1754 Graybar Bldg. NEW YORK, N. Y.
429 Russ Bldg. SAN FRANCISCO, CALIF.

OFFICES IN PRINCIPAL CITIES

DIES, JIGS, FIXTURES
SPECIAL MACHINERY

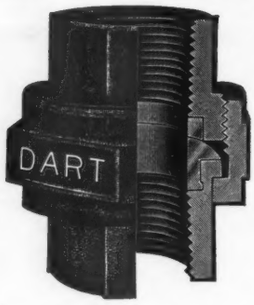
Parts Manufactured in Quantities with the same degree of accuracy as we put into our own products.

BART PRODUCTS COMPANY, Inc.
Precision Machinists
Bartlesville, Oklahoma

DART UNIONS and FLANGES

Two Bronze Seats

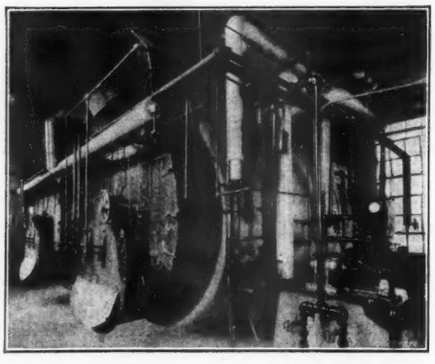
May we send you sample to try on your most troublesome line? It is absolutely free. Write today for catalogue "O."



E. M. Dart Mfg. Co., Providence, R. I.
The Fairbanks Co.,—Distributors

FREEMAN HIGH PRESSURE GAS AND OIL FIRED INTERNAL FURNACE BOILERS

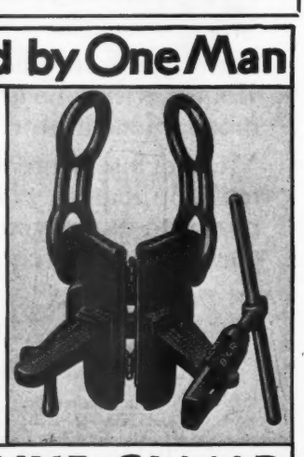
For continuous high efficiency the Freeman Internal Furnace boiler is in a class by itself. This type of boiler is safe, self contained and the upkeep is practically nil. Thousands of successful installations testify to the great merit of this boiler.



FREEMAN MFG. CO.
FACTORY AND EXECUTIVE OFFICE: RACINE, WISCONSIN
W. L. SULLIVAN HUNT BUILDING TULSA, OKLA.

Easily Operated by One Man

Simplest.. Fastest .. Safest ...
One of the 148 types of Drilling and Fishing Tools made by
ACME FISHING TOOL CO.
at Parkersburg W. Va.
Distributors and Dealers in all active fields



ACME B&R WIRE LINE CLAMP

or new conditions alter the so-called "fixed" laws.

It has been found that generally a regulator does not give its best operation when the valve is operated in a wide open position. Obviously it affords little flexibility since in this position it is capable of handling only lesser volumes and not greater. For this reason the most satisfactory results are obtained when a regulator is selected whose maximum calculated capacity is appreciably greater, depending on the controlled pressure, than the actual maximum capacity to be passed by the valve in operation.

Ordinarily it is far easier to calculate the size of pilot operated regulators; Figure 4 shows a proven chart which will be found extremely helpful in choosing the proper sized pilot actuated type.

Care should be exercised in choice of a regulator to make sure that the valve has the valve plug and seat rings made of suitable material to withstand the service for which it is intended. For example, Monel metal for steam service, stainless steel for corrosive service, hardened tool steel or Nitralloy for service where large pressure drops, likely to cause severe wire drawing, occur through the valve.

Thoughtful attention in picking a regulator with ball bearings and stainless steel working parts that reduce the inherent operation friction will do much towards obtaining longer life and an absence of repairs.

Suggestions Offered

The following general beacons are indicated to assist the engineer in his choice of a regulator. It is well, even with these suggestions found in several years' research and the recommending of many thousand regulators, to remember that there are exceptions:

Direct operated regulators are desirable:

1. For small and medium size regulators at very low pressures.
2. For very small size regulators for pressures up to medium high.
3. A specific example: Direct operating reducing regulators are suitable for supplying a constant low fuel gas pressure from a comparatively high pressure gas line to stills where the load is more or less even or to gas compressors.
4. For holding back pressure on stored gasoline where the pressure variation is small or for admitting dry gas to tanks or pipe lines the direct operated type of regulator is suitable.
5. In refineries the direct operated regulator is widely used for maintaining back pressures on look boxes.
6. The direct operated type is also suitable for pump governors where extreme sensitivity is not required and also for differential regulators (excess pressure pump governors).

Pilot operated regulators are desirable:

1. For all large size regulators, at all pressures, the pilot operated type only will be found satisfactory.
2. For all size regulators at high pressures the pilot actuated type is preferable.
3. For medium size regulators, at medium high pressures, it is advisable to use the pilot operated style.
4. Through the use of pilot actuated back pressure regulators to hold back pressure on gasoline plants, where medium pressures and comparatively large size regulators are encountered, plant performance has been greatly improved. This type of regulator has reduced the amount of variation from several pounds to fractions of a pound and made it unnecessary for the operators to be continually changing the adjustment of the regulator for varying gas volumes.
5. For steam reducing service, where a plant must be supplied with constant pressure, the pilot operated type is superior to the direct operated type as it is not economic to have as great a pressure drop across the valve as is present with a direct acting regulator.

It is believed that a consideration of these various limitations of both pilot and direct operated regulators will be of great assistance to all engineers on whom falls the lot of choosing suitable pressure regulators.

Pipe Cutters

Improved Design

ARMSTRONG Pipe Cutters are made in all practical types and sizes. They are of the finest materials—expertly made and designed. ARMSTRONG Knife Blade Cutter Wheels, smooth or knurled edge, are made of Selected Alloy Tool Steel, accurately machined, heat treated, hardened and oil tempered. Hold their edge, cut faster, cleaner. Require less power.

Write for Catalog P-10

ARMSTRONG BROS. TOOL CO.
330 N. Francisco Ave., Chicago, U. S. A.

PIPE BENDS
WELDED HEADERS
CAST STEEL FITTINGS
COMPLETE PIPING

LIMBERT PIPING

We manufacture ordinary requirements or design and manufacture special piping for any refinery condition. A third of a century of piping leadership.

GEO. B. LIMBERT CO.
570 Fulton Street, Chicago, Ill.
St. Louis, Mo. Kansas City, Mo.
Detroit, Mich.

VALUABLE INFORMATION FOR OIL MEN

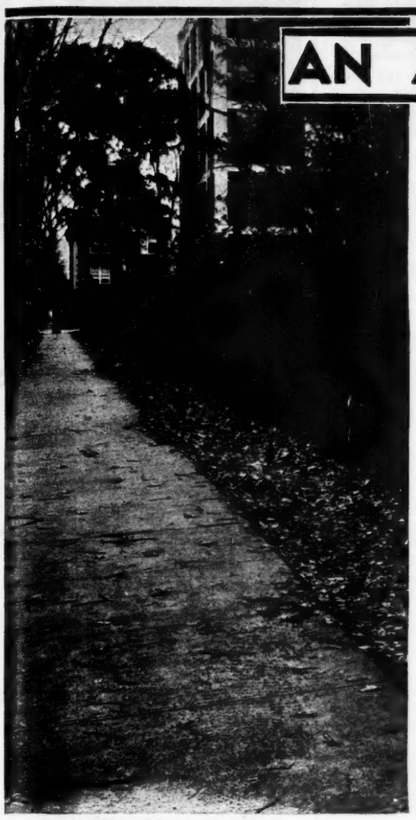
is to be found in The Oil and Gas Journal each week pertaining to all phases of the Petroleum Industry.

Keep abreast of the times by reading it each week.

The OIL and GAS JOURNAL
Tulsa, Okla.

FIRST CHAIN LINK FENCE IN AMERICA

AN ANCHOR



Time PROVEN

What better test can be applied to any product than that of time? And Anchor Fences ARE Time Proven!

Twenty-three years ago the Anchor Post Fence Company installed the first chain link fence in this country. The above illustration is of that SAME fence--today. Twenty-three years and it still stands straight and firm.

Since 1907 Anchor Fences have been constantly improved, making them still more rugged and enduring. That is why we unhesitatingly state, "Anchor Fences are Built to Last."

Anchor Post Fence Company
Eastern Avenue and Kane Street
Baltimore, Md.

Consult your phone directory for local office.

MADE BY THE MAKERS OF AMERICA'S FIRST CHAIN LINK FENCE

"AMCO" The "All-Weather" Rope

Much has been said in the last few years about "Waterproofed" Cordage. In this respect "AMCO" Treated "ALL-WEATHER" Best Pure Manila

Bull Ropes	Cat Lines
Drilling Cables	Cracker Lines

most nearly approach perfection. Make your own test—use it under the most adverse weather conditions and you'll find why "AMCO", tho introduced to the Oil Trade but a few months ago, is already a favorite. It conforms to all requirements of A.P.I. specifications.

By a secret process each of the thousands of fibres that go into "AMCO" Treated Rope are carefully prepared against dry-rot and general deterioration. This *rot-proof* feature is a protection of inestimable value to every "AMCO" user.

Don't judge a rope by its strength when new—isn't it more important to consider what load it will take after several months' storage or exposure to the elements?

"AMCO" is being imitated by many; that's a sure sign it has merit — insist on the *genuine rot-proof Rope*—always put up in Green Burlap. You'll find a label of identification in each coil. If your supply store can't furnish you, write direct to—

St. Louis Cordage Mills

Eleventh and Soulard Sts. St. Louis, Mo.

Branch of

AMERICAN MANUFACTURING COMPANY

Noble and West Streets Brooklyn, N. Y.

Tulsa Representative:

SAM REDIC, 2220 E. Seventh St.

Write for List of Distributors

"AMCO"— The "All-Weather" Rope

Ross-Meehan Foundries

Manufacturers—

RIVER CLAMPS a Specialty

Williamson Multispeed Winch for Oil Fields
Williamson Drum Units
Electric Steel Castings, Electrically Annealed
"Certified" Malleable Iron Castings
"Meehanite Metal" Castings
Gray Iron Castings
Special Analyses Castings for—
Oil Producers and Refiners

Chattanooga, Tennessee, U.S.A.

Pipe Stills

THE M. W. KELLOGG CO.
225 Broadway - - New York
Tulsa, Okla. . . . . Philtower Bldg.
Los Angeles, Cal. . . . . 1031 So. Broadway

Will outwear and stand more hard use and abuse than any other make of BELTING.

Manufactured by
Fenwick-Reddaway Mfg. Co.
Newark, N. J.

Stocks Carried at
NICHOLS TRANSFER & STORAGE CO.
1 North Boulder Tulsa, Okla.
Phone 2-1117

AMERICAN
AURORA, ILL.

The American Well Works manufactures a complete line of oil well pumping units. They are made in a wide variety of sizes permitting a length of stroke of from twelve to fifty inches. All gears are enclosed and run in a bath of oil. Used throughout the oil fields of the world. Catalogs and engineering data upon request.

C. S. CARTER, *Sales Representative*
711 Mid-Continent Bldg., Tulsa, Oklahoma
WM. PIERCE, *Sales Representative*
701 Elm St., Dallas, Texas

THE AMERICAN WELL WORKS
General Offices AURORA, ILLINOIS and Factory

WHAT IT MEANS TO YOU

You are always in a stronger position to make greater progress in the Oil Business when you have a weekly source of information that is complete, accurate, and reliable.

The one outstanding source of accurate Oil Industry news, maps and information is The Oil and Gas Journal.

Read it every week and always renew your subscription promptly.

The Oil and Gas Journal
Tulsa, Oklahoma

TENNESSEE FIELDS

(Continued from Page 81)

well on Long Fork Creek to the Missouri-Kansas Pipe Line Co., and a market may be available for Tennessee natural gas as the company and its two subsidiary operating companies have been admitted to do business in Tennessee.

C. F. West of the Armistead Oil Co. has arranged to ship a rig from the Owensboro, Ky., field to a point near Lafayette and will drill a number of wells on a block of leases.

SOUTHEAST OHIO PRODUCERS

LOGAN, Ohio, Aug. 25.—A general meeting of oil producers of Southeastern Ohio was called at Logan, August 28, by the Southeastern Ohio Oil & Gas Producers Association for the purpose of establishing a permanent organization to carry on the work of curtailment that has been recently adopted. Since producers in the Bradford-Allegeny district have been successful in adhering to their 50 per cent proration policy, it was thought necessary that the producers in Southeast Ohio pledge themselves to support the 30 per cent curtailment plan adopted at the producers meeting of July 28. The Conservation Board of the entire Pennsylvania grade producing area met in Pittsburgh August 22 and a report was made in the Logan meeting. It was declared that the interests of the Pennsylvania grade oil producing fraternity are in an extremely precarious condition because of the overproduction-under consumption situation, which is directly reflected in the present price of crude oil.

NEW REFINERIES IN FRANCE

A recently published survey of the pending organization of petroleum refining in France predicts the establishment of a large number of refineries in case the agreement is adopted by the French parliament. Two refineries are already operating; sites for new ones have been purchased near Havre, Rouen, and Marseilles. Benefits are expected to be particularly great for Havre, which has been advancing its trade in mineral oils.

INDEPENDENTS ORGANIZE

At a state-wide meeting of the independent oil operators of Montana, held in Great Falls, a State organization was effected with William M. Fulton, president; L. R. Hannah, vice president; R. P. Jackson, secretary. The board of directors consists of William M. Fulton, L. R. Hannah, B. P. Radigan, Ed Allen, J. S. Stevenson, John Loveless and O. I. De Schon.

LEGAL

NOTICE OF SALE OF OIL AND GAS LEASE.
DEPARTMENT OF THE INTERIOR
UNITED STATES LAND OFFICE
Washington, D. C., July 17, 1930.

Notice is given that the following described lands in two units in Pawnee County, Oklahoma, are offered for sale under section 17 of the leasing act of February 25, 1920 (41 Stat. 437), at the royalty rates for oil and gas and in accordance with the drilling requirements fixed in the standard lease form, copy of which may be procured from the Commissioner of the General Land Office:

Unit No. 1—
T. 20 N., R. 9 E., Sec. 35, lot 2 (13.40 acres).
Unit No. 2—
T. 20 N., R. 9 E., Sec. 35, lot 3 (12.05 acres).

Offers may be submitted on each unit and on the combined units, each unit to be considered separately as to drilling requirements and royalty rates.

The sale will be held at 10:00 a. m. on 10th day of September, 1930, at the office of the U. S. Geological Survey, 411 Wright Building, Tulsa, Oklahoma, and the successful bidder will be required to deposit on the date of sale one-fifth of the bonus bid by certified check on a solvent bank, or cash.

The bidders are warned against violation of the provisions of section 59, U. S. Criminal Code, approved March 4, 1909, prohibiting any unlawful combination or intimidation of bidders.

The right is reserved to reject any and all bids in the discretion of the Secretary of the Interior.

(Signed) C. C. Moore,
Commissioner.

FOR USE IN OIL LINES
WHILE WELDING
Safety Gas Main Stopper Co.
523 Atlantic Ave., Brooklyn, N. Y.

ARTHUR C. BROWN
Solicitor of United States and Foreign Patents
914-915 Kennedy Bldg.
TULSA, OKLA.
Mr. H. H. Twente
Resident Assistant
Phone 4-2319

Chester W. Washburne
Geologist and Engineer
149 Broadway, N. Y.

TEXAS OIL MAPS
County and District Catalog on Application
HEYDRICK MAPPING COMPANY
Wichita Falls, Texas

Bernard Cooper
Royalties
Mid-Continent Areas
Stevens and Morton Counties, Kansas
412 Philtower, Tulsa
Warren Hotel, Liberal, Kans.

PATENTS *Write for Free Book*
MUNN & CO.
Associated since 1846 with the Scientific American
514 Scientific American Bldg., *Washington, D. C.*
1551 Scientific American Building, *New York City*
24 West 40th Street,
1303 Tower Building, *Chicago, Ill.*
656 Hobart Building, *San Francisco, Calif.*
511 Van Nuys Bldg., *Los Angeles, Calif.*

SOUTH TEXAS
Oil Maps
County Ownership, Fields and Combinations.
ALLING BLUE PRINT CO.
San Antonio, Texas

The opportunity, the man or whatever you need pertaining to the Petroleum Industry is very apt to be found in our Classified Wants Section. Everyone benefits by reading these pages. Don't miss looking over them. Pages 132 and 133.

The Oil and Gas Journal
Tulsa, Okla.

HIGH PRESSURE WELDED VESSELS for all purposes

All Kinds of Plate Work

Working Heavy Plates Our Specialty

REFINERY EQUIPMENT

FIRE TUBE BOILERS

The Hedges-Walsh-Weidner Co.

Main Office and Works
Chattanooga, Tenn.
Eastern Office
200 Madison Ave., New York

Read this!

TWO hundred thousand dollars a year saved around a refinery is an item worth entering on anybody's books. That is the savings on material, that would otherwise have to be written off as junk, credited in 1929 to the reclamation department of the

Note: If you haven't a copy of National Petroleum News for April 2nd in which this article appeared, we will gladly send you a reprint. Just drop us a card.

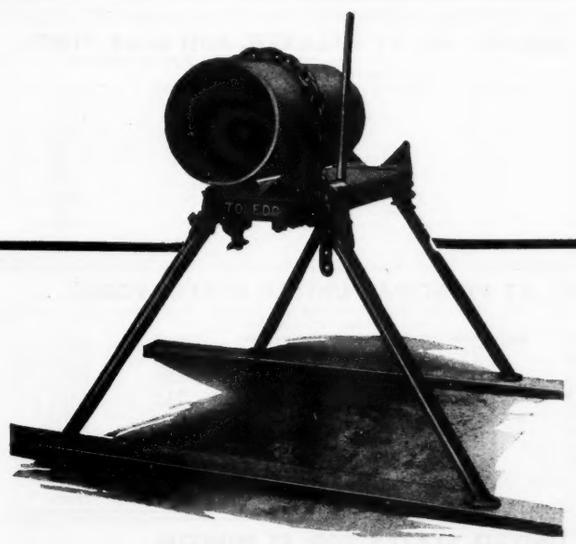
AND one of the essential features of this unusual saving was the use of Oakite in removing oil, grease and dirt from valves, fittings, pipes, meters, rags and other discarded equipment before repair.

Would a saving of $200,000 or even $2,000 look good on your books? This proves it CAN BE DONE! Let us show you how Oakite will help, by speedy, thorough, economical cleaning, without scrubbing or scraping, without danger. Write for details now!

Oakite Service Men, cleaning specialists, are located in the leading industrial centers of the U. S. and Canada.

Manufactured only by
OAKITE PRODUCTS, INC., 44C Thames Street, NEW YORK, N. Y.

OAKITE
TRADE MARK REG. U.S. PAT. OFF.
Industrial Cleaning Materials and Methods



A WORK BENCH ABUSE WON'T HARM

You will find the "TOLEDO" No. 9 Work Bench and chain vise for pipe from 2" to 14" ideal for your work. Strong and sturdily built, it will give years of satisfaction. Light and compact, easily moved about. Built to meet all requirements and to withstand the rough service in the oil fields.

A post card will bring you net price and full information. Write for complete circular on "TOLEDO" Vises and Work Benches.

"TOLEDO"

THE TOLEDO PIPE THREADING MACHINE CO. TOLEDO, OHIO
NEW YORK OFFICE, 72 LAFAYETTE ST.

Oil leaks stopped quickly and permanently by using SMOOTH-ON No. 1

SMOOTH-ON No. 1 as a joint filler works its way into *and stays* in every surface depression in the metal of threaded joints and every weak spot in the packing of flanged joints, and overcomes the effects of vibration and temperature change, because the Smooth-On is iron and once hardened in place, has the same expansion coefficient as the surrounding metal.

Try it on the joints of hot oil lines or gasoline lines, where nothing else holds, and you will quickly realize that leakage *can* be stopped. Smooth-On No. 1 never weakens, cracks or blows out. To apply, follow instructions in the Smooth-On Handbook.

Get Smooth-On No. 1 in 1 or 5-lb. can or 25 or 100-lb. keg from your supply house, or if necessary, direct from us.

SMOOTH-ON MFG. CO., Dept. 30,
570 Communipaw Ave., Jersey City, N. J.
Please send copy of the SMOOTH-ON HANDBOOK, 21st Edition.

Name _____

Address _____

_____

8-28-30

Do it with **SMOOTH-ON**